BAJA KITS
BY BRENTHEL INDUSTRIES

INSTALLATION MANUAL

Vehicle: 2019-2024 Chevrolet Silverado 1500 4WD & GMC Sierra 1500 4WD

Kit Part # BJK11401FRS & BJK11402FRS

Level 4 Install

Install Time: 30-40 hours

**NOTE: Read through entire installation manual including the pre-install notes before deciding whether to attempt the procedure. Do not attempt if you do not possess the proper know-how and tools necessary to complete the installation.

FOR ANY TECHNICAL QUESTIONS OR SUPPORT, PLEASE CONTACT BAJA KITS

Contact: Tel: 949.566.8615 • Tech-Baja@ridefox.com

Minimum Required Tool List:

- Wrench and Socket Set up to 27mm or 1-1/16”
- 36mm Axle Socket
- Ball Joint Removal Tool
- Right Angle Low Profile Drill (Milwaukee 2615-20 or similar)
- 1/2” Drill (Milwaukee 4606-20 or similar)
- Die Grinder (Milwaukee 2485-20 or similar)
- 1/2” Step Drill Bit (Milwaukee 48-89-9241 or similar)
- Torque Wrench (Up to 320 ft-lbs)
- Cut Off Tool (Milwaukee 2522-20 or similar)
- Right Angle Grinder (Milwaukee 2880-20 or similar)
- Air Hammer with Large Radius Rounded End (Bed clearance for shock eyelet)
- Flexible Magnet
- Tape Measure
- Paint Pen (For marking holes to be drilled)
- Center Punch
- Alignment Punch
- Grease gun with standard grease fitting and narrow needle dispenser
- Undercoating Spray Paint (For drilled holes through the frame)
- Specialty Tools required if re-gearing the front differential (including but not limited to EN-47966)
- Welder **(Only for weld on rear axle bracket kit BJK11402FRS)**

Parts List:

- BJK1144001	Front Component Box Kit (Parts list at end of these instructions)
- BJK1141001	Front Upper Control Arm Box Kit
- BJK1142001	Front Lower Control Arm- Driver Side
- BJK1142002	Front Lower Control Arm- Passenger Side
- BJK1145001	Rear Suspension Mount Box Kit 1
- BJK1145002	Rear Suspension Mount Box Kit 2
- BJK1145003	Rear Upper Control Arm and Track Bar Box Kit
- BJK1145004	Rear Trailing Arm Box Kit (Quantity: 2)
- BJK1146001	Rear Axle Components (Dana Axle Only)
- BJK1146002	Rear Axle Components (Weld On Kit Only)
- DANA10515329	Dana Ultimate 60 Replacement Rear Axle
- IK83-1106	Front Differential Bearing Installation Kit
- AAM80TI373GEARKIT	3.73 Ring and Pinion with Carrier Set
- JEREEL100996	Rear Drive Shaft
- RCV-CVJIFS-TBOSSX3	RCV Front CV Shafts
- FOX98406507L	Front 3.0 IBP Coilover- Driver Side
- FOX98406507R	Front 3.0 IBP Coilover- Passenger Side
- FOX98406508L	Rear 3.0 IBP Coilover- Driver Side
- FOX98406508R	Rear 3.0 IBP Coilover- Passenger Side
- FOX98402493	Rear Hydraulic IFP Bump Stop- Threaded
- FOX98402412	Front Hydraulic IFP Bump Stop- Eyelets
- FOX98402484	Front Steering Stabilizer

PRE - INSTALLATION / FITMENT NOTES

1. Wheel and Tire Requirements:

   17" x 8.5" or 9' wide with 4.5" or 5" Back Spacing wheels recommended

   37" x 12.50 R17 BFG All Terrain Load Range C Tires recommended for best performance (Part # 80088)

2. **This kit has only best test fitted on a crew cab, short bed (69.92In long) configuration with either a 5.3 or 6.2 engine truck.** Different cab and box configurations have not been test fitted to work for pilot hole locations or frame bracket fitment. Different engine configurations may result in different front ride height positions affecting bypass hole positions. Eye to eye of the front coil-over measurement should be close to 23-1/8" for best tuning of the suspension relative to bypass hole positions.

3. The rear ride height for this kit was tuned and set ride height around a crew cab, short bed configuration truck with 2 full size 37" spare tires and ~100lbs of accessories in the bed of the truck. Eye to eye of the rear coil-over measurement should be close to 27-3/8" for best tuning of the suspension relative to bypass hole positions.

4. To achieve full suspension travel on the front and rear of the truck, aftermarket / wider fenders are required similar to Fiberwerx or ADV. The minimum requirements are shown below, additional features can be customized to these requirements from the fender manufacturer such as bumper caps, valence, composite material made out of carbon fiber., etc Make sure you purchase the correct fit for your vehicle / year range based on fender manufacturers website. Typical aftermarket fenders will not include and means to relocate the fuel filler neck.

   Fiberwerx Minimum Fender Requirements:

   Chevy Front: CSF-108; Chevy Rear: CSB-021F

   GMC Front: GSF-006; GMC Rear: GSB-005F

   ADV Minimum Fender Requirements:

   Chevy / GMC Front 4" Flare / 2" Rise

   Chevy / GMC Rear 4.5" Flare / 2" Rise

5. The aftermarket front fenders may need to be modified to ensure full tire clearance through all of wheel travel. The plastic bracket on the front of the front fender that attaches between the body, fender liner, and headlight will need to be removed to ensure adequate compression travel for a 37" tire. The rear of the front fender will need to be modified on aftermarket fenders as well along with folder over the pinch weld to ensure adequate compression travel for a 37" tire.

FIGURE 1 REAR OF FRONT FENDER

FIGURE 2 FRONT OF FRONT FENDER

6. This kit can be 100% bolt-in / bolt-on when optioned with the rear Dana Ultimate 60 axle. This means drilling through the frame in defined areas of these instructions will be needed.
7. Kit comes pre-installed with ball joints and pushing pressed into the control arms. No assembly of ball joints and bushings into control arms is required.

8. When installing the optional rear Dana Ultimate 60 axle, replacement brake lines will be used to extended the brakes out from their traditional position. Brake bleeding must happen and will require a dealer service tool for the ABS system.
9. When installing the replacement rear axle option for this kit , note that the front differential MUST be re-geared or match. Front and rear gear ratios MUST match. The gearing of the Dana Ultimate 60 replacement rear axle is 3.73. If your truck already has a 3.73 gearing front differential re-gearing is not needed. Recommended to follow OE procedure for front gear set installation using the provided bearing installation kit. Specialty tools may be required for re-gearing the front differential, including, but not limited to the EN-47966 for removing the driver side stub shaft.
10. If installing the Dana Ultimate 60 rear axle, an air compressor is required for running the rear ARB Air Locker. The rear ARB Air Locker is a RD167. Recommended to install at a minimum ARB Single Motor Air Compressor (Kit # CKMA12 from ARB). Follow supplier recommendations for installing air compressor, wiring air compressor to the vehicle, and running air lines to the air locker.
11. The air locker system can be operated on any alternate air source that meets each of the following guidelines:

- Must supply a minimum of 85PSI [586kPa].
- The Air source should have a tank capacity that enables it to actuate the Air Locker(s) in one charge so that no hesitation is experienced when locking one or two differentials.
- HINT : A good way to insure that you have the necessary capacity is to make sure you can engage, disengage, and then reengage your Air Locker(s) without the air source having to regenerate (e.g., without the compressor turning on to refill the tank).
- Must supply clean air, free of rust, dirt, water, or other foreign matter.
- Must match the 1/8" BSP porting of the Air Locker solenoid.
- Mount solenoid within close proximity of the air supply and secure it from the effects of vibration and shock.
- Connect the air supply to the 1/8" BSP inlet port of the solenoid (stamped "1" on the solenoid body) using thread sealant.

12. If installing the weld on axle bracket kit, a professional / experienced welder is recommended for welding of the brackets onto the rear axle. Note that the rear axle can be and should be removed from the vehicle to weld on the axle brackets. The material used for the weld on brackets is HSLA Grade 50 Steel, 1/4" thick.
13. A minimum of 3" wheel spacers is required to be used with the OE weld on axle kit. The Dana Ultimate 60 rear axle already has additional track width built into the axle and does not require wheel spacers.
14. OE spare tire cannot be reinstalled underneath the bed due to track bar configuration.
15. If using a lift, be aware of the position of the lift arms in relation to where the trailing arm brackets will be installed on the frame. Ensure that the section of the vehicle frame is clear for bracket installation.
16. Fastening or strapping the truck frame to the lift is recommended prior to removal of the truck bed to ensure the truck does not tip forward when using a lift.

REAR DISASSEMBLY

1. Disconnect Battery Fig.1

FIGURE 3

2. Remove Tires and Wheels.
3. If equipped, remove running boards. (6)bolts per side. Fig.2

FIGURE 4

4. Remove Spare Tire per manufacturer instructions.
5. Remove aluminum spare tire splash guard. (6)bolts. Fig.3, 4

FIGURE 5

FIGURE 6

6. Remove spare tire lift cable and crank system. Fig. 5

FIGURE 7

7. Remove trailer plug by sliding clip back to release. Fig. 6

FIGURE 8

8. Remove wiring from bumper. Use trim tool to remove clips from frame. Fig. 7, 8

FIGURE 9

FIGURE 10

9. Remove bumper bracket bolt first, then lower bolt Fig. 9 (2) bolts

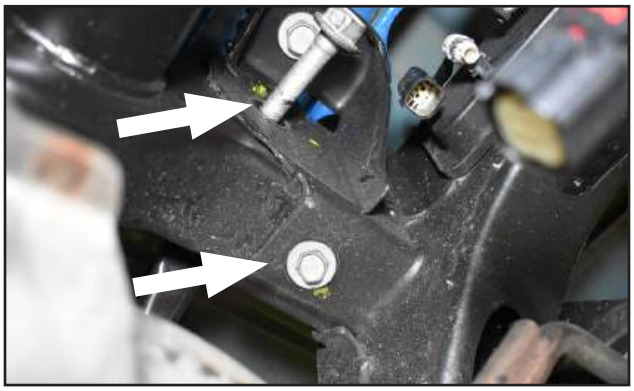


FIGURE 11

10. Remove bumper from the truck.
11. Remove (6)bolts as indicated in Fig. 11, 12, 13, 14, 15

FIGURE 12

FIGURE 13

FIGURE 14

FIGURE 15

FIGURE 16

FIGURE 17

12. Remove gas cap guard by pushing from inside out. Fig. 16

FIGURE 18

13. Remove (2)bolts from fuel fill line bracket. Fig. 17, 18

FIGURE 19

FIGURE 20

14. With assistance, remove truck bed. Place out of your work area. Fig. 19

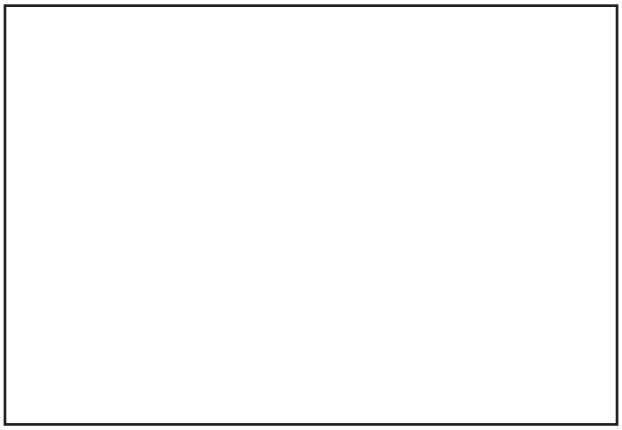


FIGURE 21

FUEL TANK REMOVAL

15. Support fuel tank with screw jack or other method. Fig. 20

FIGURE 22

16. Disconnect all topside wiring found on the fuel tank. See Fig. 21

FIGURE 23

17. Disconnect Fuel and Evap. Lines by removing retaining clips. Fig. 22, 23

FIGURE 24

FIGURE 25

18. Remove fuel tank by removing (2) bolts attaching the fuel tank straps to the frame. Fig. 24, 25

FIGURE 26

FIGURE 27

19. Straps can now be removed from the frame brackets. Fig. 26, 27

FIGURE 28

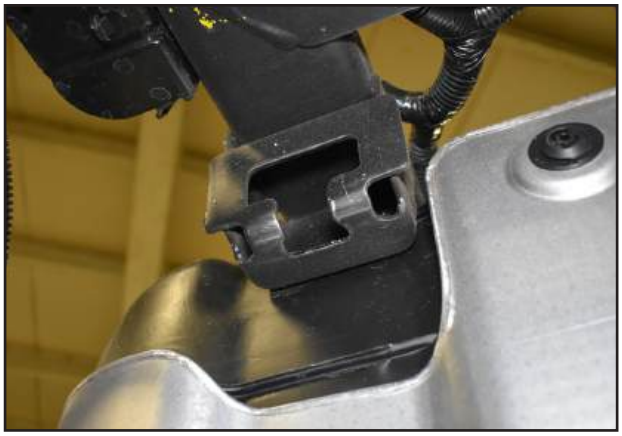


FIGURE 29

20. Carefully lower and remove fuel tank from the frame. Set away from your work area.

DRIVE SHAFT REMOVAL

21. Remove (4) drive shaft bolts attaching drive shaft to rear differential. A light tap from a rubber mallet may be needed to dislodge the drive shaft from the differential. Fig. 28, 29

FIGURE 30

FIGURE 31

22. Lower the drive shaft and pull it out of transmission. Set drive shaft aside.

REAR SHOCK REMOVAL

23. Remove upper and lower bolts from the driver and passenger side rear shocks. Fig. 30, 31

FIGURE 32

FIGURE 33

REAR DIFFERENTIAL REMOVAL

24. Remove (3)bolts attaching wiring harness bracket to top of differential. Fig. 32, 33

FIGURE 34

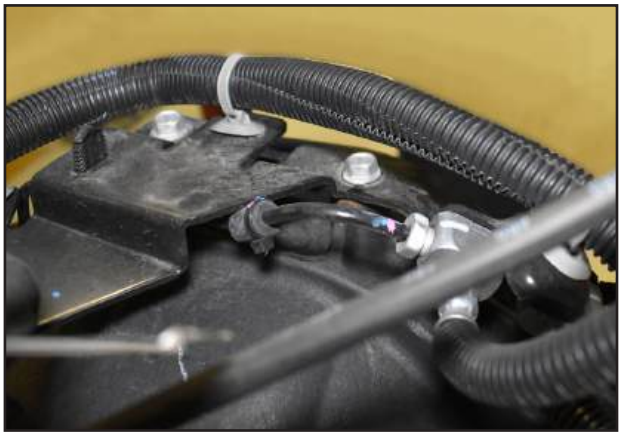


FIGURE 35

25. Unplug wiring harness plug from the brake calipers by sliding red clip. Fig. 34

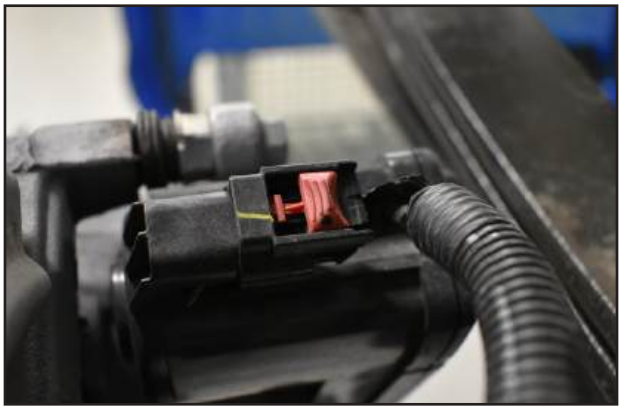


FIGURE 36

26. Remove speed/ABS sensor bolt from passenger and driver side drive shaft assembly near the brake rotor. Remove speed sensor taking care not to damage. Fig. 35, 36

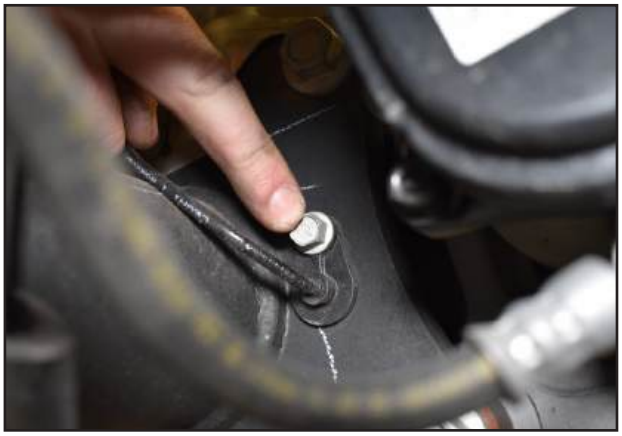


FIGURE 37

FIGURE 38

27. Unplug brake pad sensor on the driver side. Fig. 37

FIGURE 39

28. Remove (6) wiring harness bracket bolts from the 2 brackets attached along the top of the rear end assembly. There are 3 bolts per bracket. Fig. 38, 39 & 40

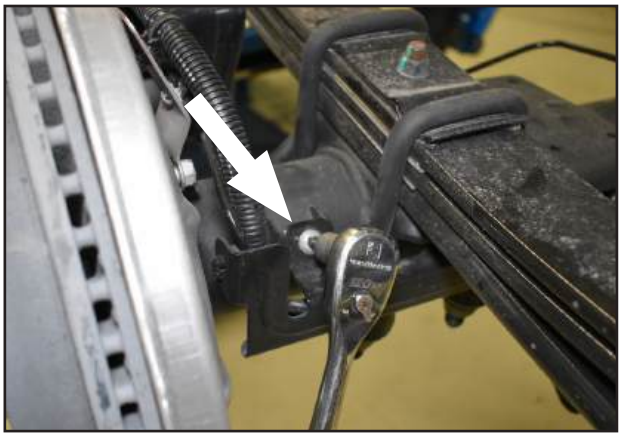


FIGURE 40

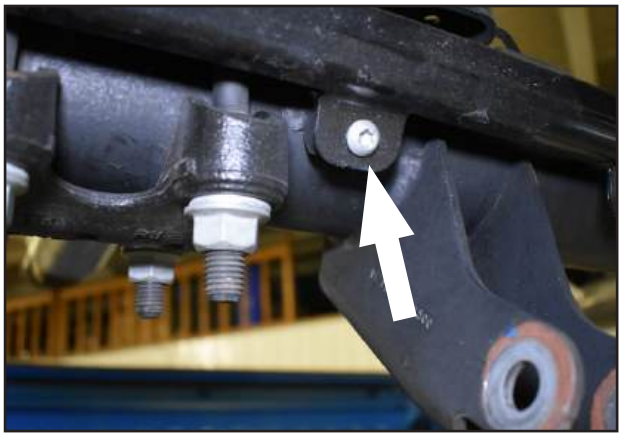


FIGURE 41

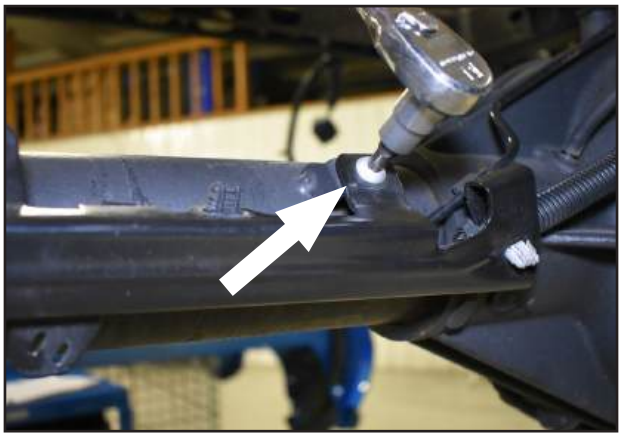


FIGURE 42

29. Once all wiring and brackets are removed from the rear end assembly it is recommended to place wiring up and out of the way with a bungee cord or other strap to help ease differential removal.
30. Remove rear brake calipers by removing (2) brake caliper bolts on both passenger and driver side. Hang calipers to frame to protect brake lines from damage. Fig. 4902-4903 Calipers and brake lines must be moved out of the way such that the rear differential and leaf springs can be removed from the vehicle. Be cared to not bend the lines.

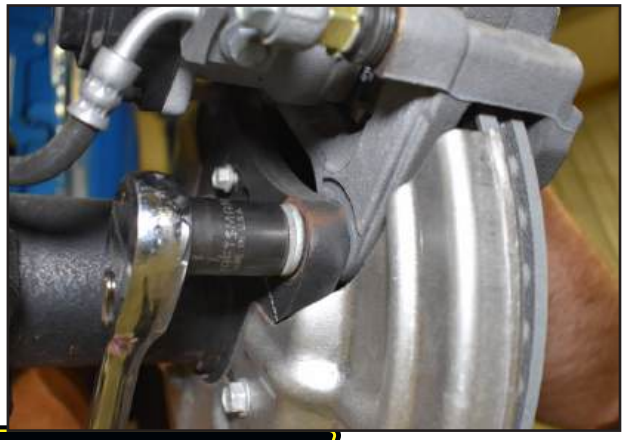


FIGURE 43

FIGURE 44

31. Support rear end assembly with screw jacks other method. Remove (8)Nuts from U-Bolts attaching axle to leaf springs on both sides. Lower rear end assembly to the ground away from work area. Fig. 43, 44. This may be done on the ground with wheels / tires on the axle to easily move the axle. Ensure when removing the rear axle no brake or ABS lines are caught on the differential when moving it.

FIGURE 45

FIGURE 46

32. Remove front leaf springs bolts. Fig. 45 Save bolt and nut tab for later installation.

FIGURE 47

33. Remove rear leaf spring bolts. This will require backing out the exhaust hanger bolt in Fig. 46 to access the lower inside leaf spring shackle bolt. Fig. 47 The shackle can remain attached to the leaf spring and remove the leaf spring from the vehicle. The rear leaf spring hardware will not be reused.

FIGURE 48

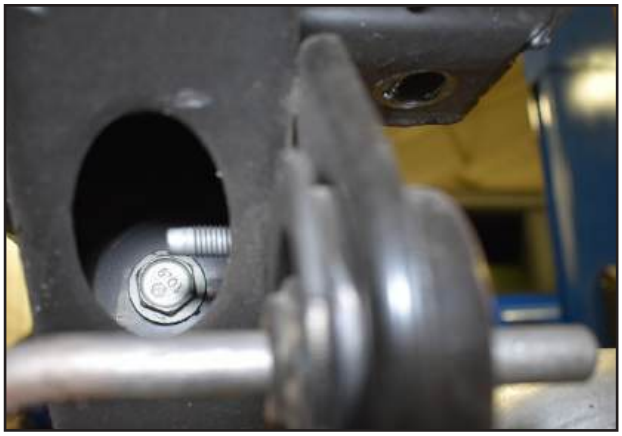


FIGURE 49

34. Remove exhaust by first unbolting clamp as shown. Fig. 48.

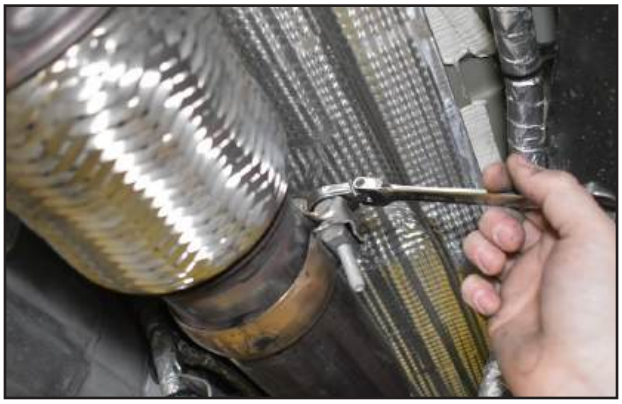


FIGURE 50

35. Remove exhaust from rubber mounts as shown. Fig. 49, 50 & 51

FIGURE 51

FIGURE 52

FIGURE 53

36. Remove the factory bumper stop by removing bolt found in the center attaching stop to the frame. Fig. 52

FIGURE 54

FIGURE 55

37. The entire rear frame should now be stripped of the rear axle, exhaust, fuel tank, bed, rear bump stop mount, and rear bumper

INSTALL REAR COIL-OVER SUSPENSION SYSTEM

These steps will be performed on both sides of the vehicle.

REAR UPPER CONTROL ARM BRACKET INSTALLATION

1. The factory hole on the top side of the front leaf spring mount may need to be drilled or die grind out to 1/2" to accommodate the new hardware. Fig. 54, 55

FIGURE 56

FIGURE 57

2. Install rear upper control arm bracket into factory front leaf spring mount using the factory front leaf spring bolt. Leaf hardware loose. Fig. 56, 57

FIGURE 58

FIGURE 59

3. Attach the rear upper control arm bracket to the frame with a 1/2" flange head bolt and nut in Bolt Pack 382 to the clearance out factory hole on the top side of the front leaf spring mount. Leave hardware loose. Fig. 58, 59, 60

FIGURE 60

FIGURE 61

FIGURE 62

4. Using the provided fish wire back feed the coiled end of the fish wire through the bottom hole in the rear upper control arm bracket and out the large OE slotted hole on the inside of the frame. Fig. 61, 62 & 63

FIGURE 63

FIGURE 64

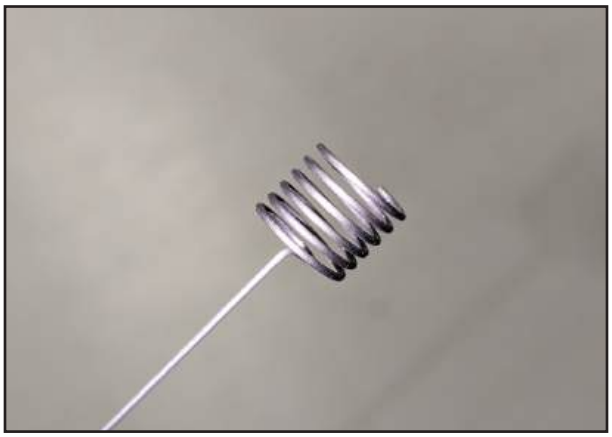


FIGURE 65

5. Insert the carriage bolt plate onto the fish wire first, followed by a 1/2"-13 carriage bolt from Bolt Pack 382. Fig. 64, 65

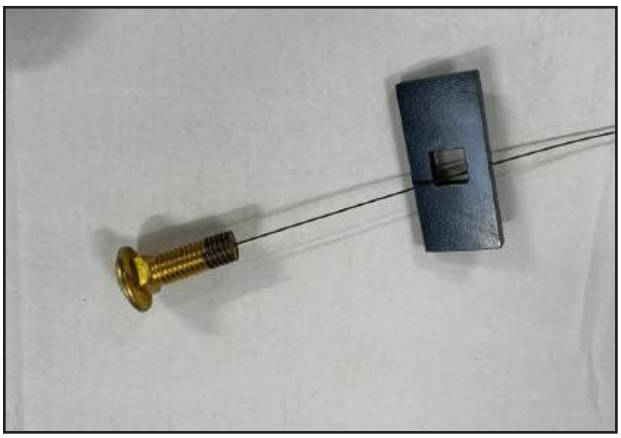


FIGURE 66

FIGURE 67

6. Using the fish wire assembly, first feed the carriage bolt plate through the frame followed by the carriage bolt. Be careful to always hold on to the bottom side of the fish wire (opposite the carriage bolt) in order to make sure the carriage bolt plate and carriage bolt feed through to the correct location in the frame. After the carriage bolt is fed through and sticking out the bottom side of the frame and rear upper control arm bracket, removed the fish wire from the carriage bolt. Using a 1/2" flange nut from Bolt Pack 382, attach the rear upper control arm bracket to the frame. Torque this carriage bolt to 50 ft-lbs. Fig. 66

FIGURE 68

7. Torque the 1/2" bolt on the top side of the rear upper control arm bracket to 80 ft-lbs. Line up the OE nut tab to the OE leaf spring bolt and torque this bolt to 137 ft-lbs. Fig. 67

FIGURE 69

REAR COIL-OVER / BUMP STOP BRACKET

Note: When using red thread locker for installation, typical set time is 10-20 minutes. Ensure all hardware is torqued within this time frame for proper installation of thread locking compound.

1. To install coil-over / bump stop bracket to the frame on the driver side, start by first removing the gray brake line clip on the top side of the frame. Fig. 4949

FIGURE 70

1. To install coil-over / bump stop bracket to the frame on the passenger side, start by removing the wire hardness from the top side of the frame. Fig. 69, 70

FIGURE 71

FIGURE 72

2. Temporarily mount the coil-over / bump stop bracket to the frame. Note on the passenger side the OE bed mount must be trimmed for bracket clearance. After trimming make sure there is no contact between the coil-over / bump stop bracket and the bed mount. Fig. 71, 72, 73

   Tip: A rubber mallet may be needed to tap bracket onto the frame.

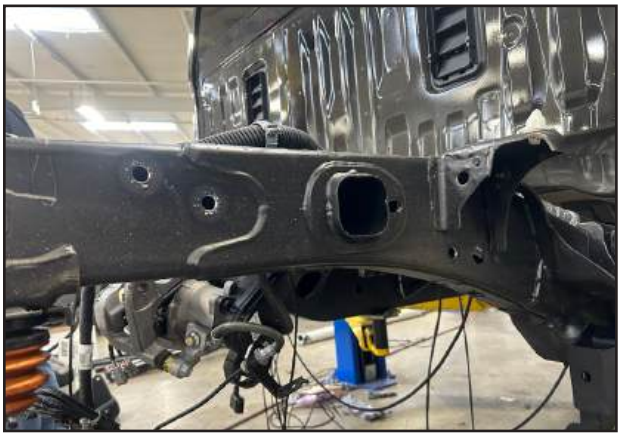


FIGURE 73

FIGURE 74

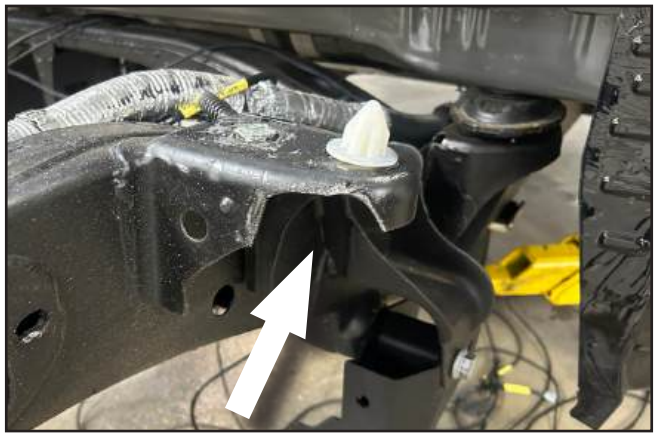


FIGURE 75

3. Align the coil-over / bump stop bracket to the frame, centering the bracket as close as possible to the OE slot as shown below.

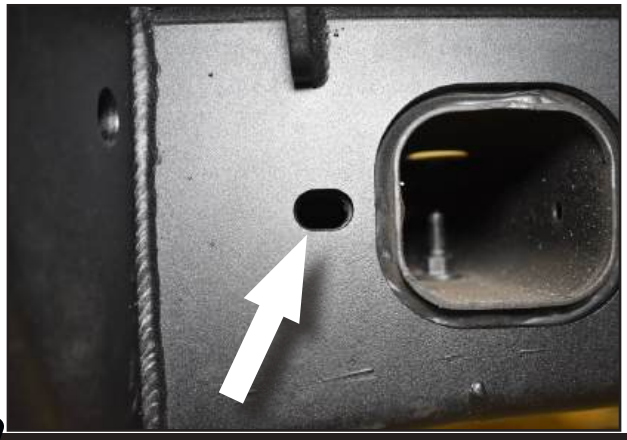


FIGURE 76

4. Along with centering the coil-over / bump stop bracket on the OE slot, make sure the rear part of the bracket is pushed up so it is on the frame.

FIGURE 77

5. Using the holes on the coil-over / bump stop bracket mark all holes on the side, bottom, and top of the frame rail. Hole punch the center of all the holes for best accuracy of installation. It is recommended to use a clamp to discourage movement of bracket when marking holes. Fig. 76, 77, 78, 79, 80, 81

FIGURE 78

FIGURE 79

FIGURE 80

FIGURE 81

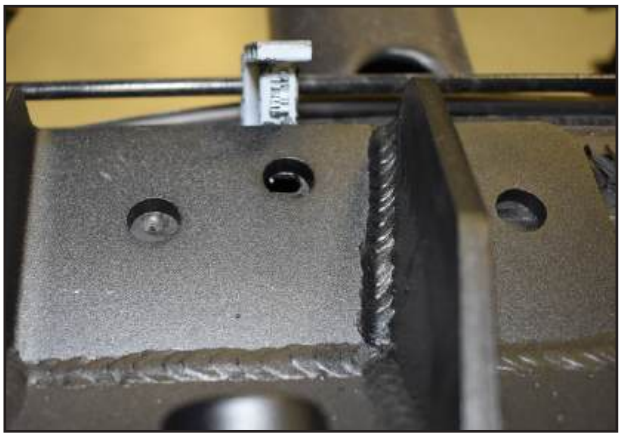


FIGURE 82

FIGURE 83

6. Remove the bracket to drill all the holes to 9/16". Note the OE slotted hole that was first referenced may need to be die grind out for a 1/2" hardware. Fig. 82, 83, 84

FIGURE 84

FIGURE 85

FIGURE 86

7. Once drilled, the bracket can be re-mounted on the frame and aligned to the drilled out frame holes. The required nut tabs and bolt plates are laid out in the images below.

DRIVER SIDE

PASSENGER SIDE

8. Follow the order of nut tab and bolt plate installation as described. **ENSURE PROPER FITMENT OF HARDWARE, A DIE GRINDER CAN BE USED TO SLIGHTLY OPEN UP HOLE SIZES.**
9. Install the nut tab shown in Fig. 85 through the front most factory hole on the inside frame rail as shown in figure Fig. 86, 87. Install the 2 provided 1/2" x 1-1/2" flange bolts from Bolt Pack 382 using red thread locker. Leave hardware loose. Fig. 88

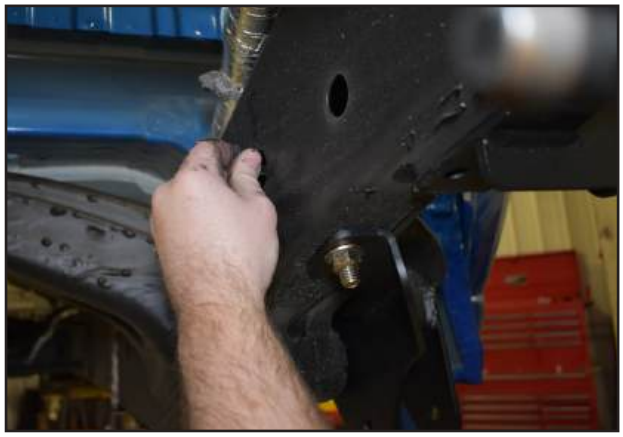


FIGURE 87

FIGURE 88

FIGURE 89

FIGURE 90

10. Install nut tab shown in Fig. 89, 90 through the slotted hole on top of the frame rail (Fig. 91) for installing your (3) top bolts into the coil-over / bump stop bracket. It may be necessary to remove the ground wire shown in Fig. 92, 93 to allow room for nut tab installation. Make sure the nut tab is above the frame rail when installed and you can see the nut tab from the top (3) holes in the coil-over / bump stop bracket. The nut tab handle may need to be slightly bent to get it above the frame cross-member. Loosely install (3) 1/2" x 1-1/2" flange bolts using red thread locker to the nut tab. Fig. 94 Re-install your ground wire once nut tab and bolts are installed. Torque bolts to 80 ft-lbs.

FIGURE 91

FIGURE 92

FIGURE 93

FIGURE 94

FIGURE 95

FIGURE 96

11. Feed coiled end of your fish wire through the drilled holes near the bump stop mount and out the inside slotted factory frame hole. Fig. 95 Insert the bolt plate onto the fish wire followed by threading on a 1/2" carriage bolt from Bolt Pack 382. Fig. 96 Feed the bolt plate and carriage bolt through factory hole pulling on the fish wire such that it is fed through the bottom hole on the coil-over / bump stop bracket. Note not to pull too hard on the fish wire as it can un-thread from the carriage bolt. Un-thread the fish wire from the carriage bolt. Thread on a 1/2" flange nut from Bolt Pack 382 to the carriage bolt. Fig. 97 Leave hardware loose. Do this for both holes near the bump stop mount.

FIGURE 97

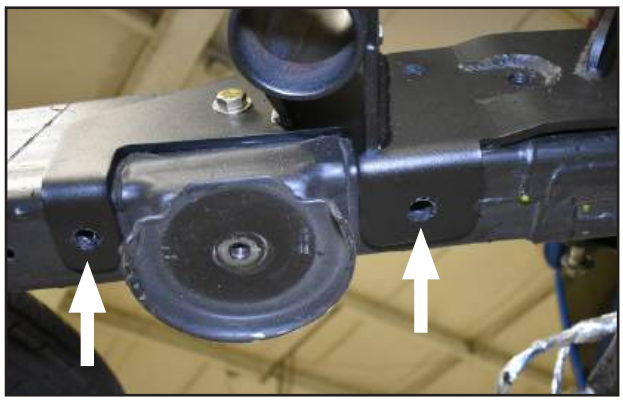


FIGURE 98

FIGURE 99

12. Feed coiled end of your fish wire through the drilled holes and out the inside factory frame hole on the front (3) bottom holes of the coil-over / bump stop mount bracket. Follow the image below for which direction to feed the fish wire from. Insert the bolt plate onto the fish wire followed by threading on a 1/2" carriage bolt from Bolt Pack 382. Feed the bolt plate and carriage bolt through factory hole pulling on the fish wire such that it is fed through the bottom hole on the coil-over / bump stop bracket. Un-thread the fish wire from the carriage bolt. Thread on a 1/2" flange nut from Bolt Pack 382 to the carriage bolt. Leave hardware loose. Do this for all (3) holes near the coil-over mount. Fig. 98, 99

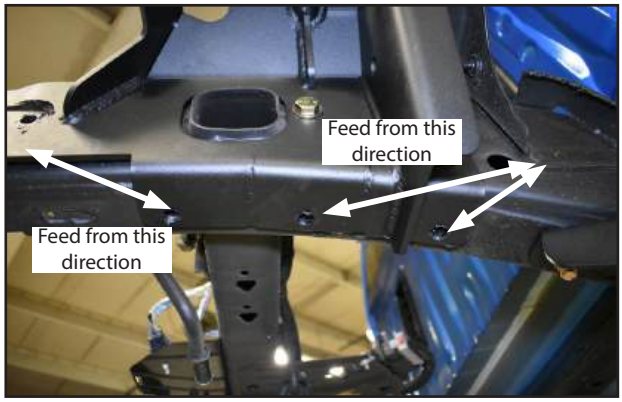


FIGURE 100

FIGURE 101

13. Install the nut tab shown in Fig. 100, 101 through the rear factory hole on the inside frame rail near the bump stop as shown in figure Fig. 102, 103. Install the (2) provided 1/2" x 1-1/2" flange bolts from Bolt Pack 382 and using red thread locker. Leave hardware loose.

FIGURE 102

FIGURE 103

FIGURE 104

FIGURE 105

14. Install the 7/16" hardware from Bolt Pack 382 first. Install the 7/16" x 1-1/2" bolt first from the outside in such that the threads are showing on the inside of the frame. A bolt plate will need to be installed through hole shown in Fig. 106 on top the threads of the 7/16" bolt on the inside of the frame. Next install a 7/16" flange nut to the 7/16" bolt on the inside of the frame. It is recommended to use a magnet as shown in Fig. 107 to install the nut plate into the frame hole and onto the bolt. Then install the flange nut using a chrome 11/16" socket as shown. Fig. 108 Leave hardware loose.

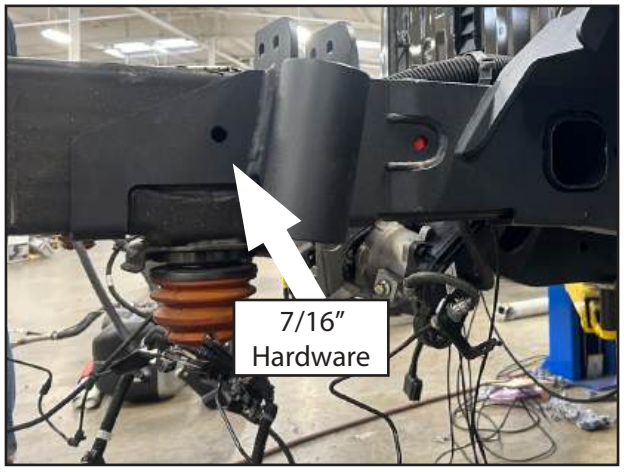


FIGURE 106

FIGURE 107

FIGURE 108

FIGURE 109

FIGURE 110

15. Install the 5/8" flange bolt from Bolt Pack 382 through the coil-over mount bracket and through the OE frame hole on the bed mount. Attach on the inside of the OE bed mount using a 5/8" flange nut from Bolt Pack 382. Fig. 109, 110 Leave hardware loose.

FIGURE 111

FIGURE 112

16. Torque all the coil-over / bump stop mount brackets in this order:

    7/16" hardware - 59 ft-lbs

    1/2" nut tab hardware - 80 ft-lbs

    1/2" carriage bolt hardware - 80 ft-lbs

    5/8" hardware - 90 ft-lbs

REAR SUSPENSION TRAILING ARM BRACKETS INSTALLATION

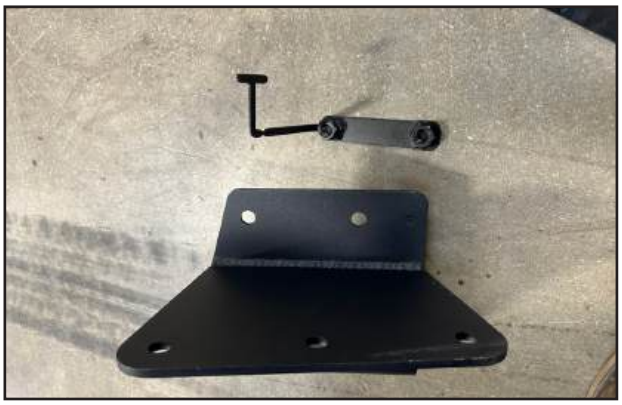
Note: This will be performed on both sides. A step bit and right angle drill are required.

Note: When using red thread locker for installation, typical set time is 10-20 minutes. Ensure all hardware is torqued within this time frame for proper installation of thread locking compound.

1. Locate the rear trailing arm brackets and nut tabs.

PASSENGER SIDE

DRIVER SIDE



2. Find the factory hole on the bottom side of the frame rail where the frame starts to run uphill. See Fig. 111, 112, 113

   Note: On the driver side on 2021+ Model Trucks the frame has changed and this hole may no longer be present. A drill template is needed to line up with other existing holes on the frame. See the last page of the instructions for this drill template.

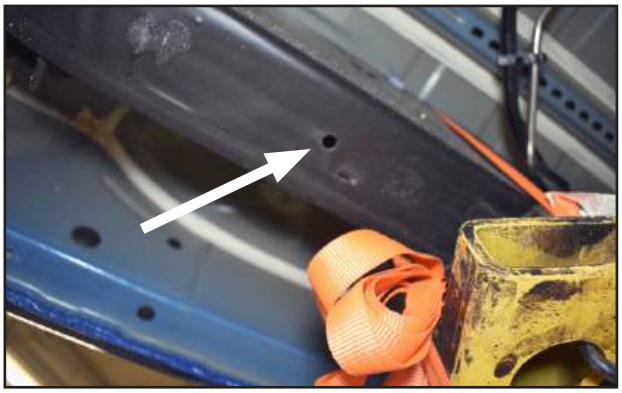


FIGURE 113

FIGURE 114

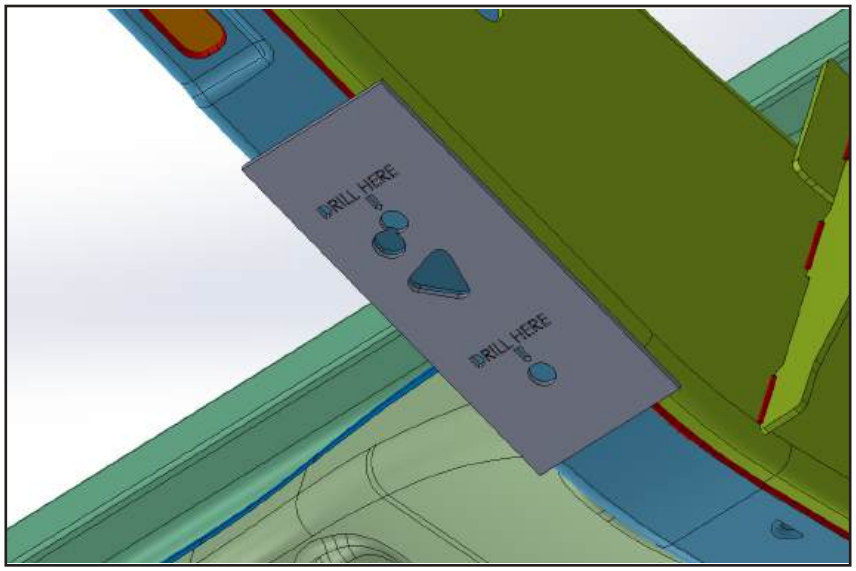


FIGURE 115

3. Drill factory hole Fig. 113 to 1/2". Temporarily install a 1/2" x 1-1/2" flange bolt from Bolt Pack 382 to locate the trailing arm bracket.

FIGURE 116

4. Mark your other bottom hole along with the (3) side holes. Remove the bracket and drill the (2) bottom holes out to 9/16" along with the (3) side holes on the outside of the frame rail to 9/16". Due to the limited space between the frame and the body it is recommended to use an right angle drill and a step bit that goes up to at least 9/16".

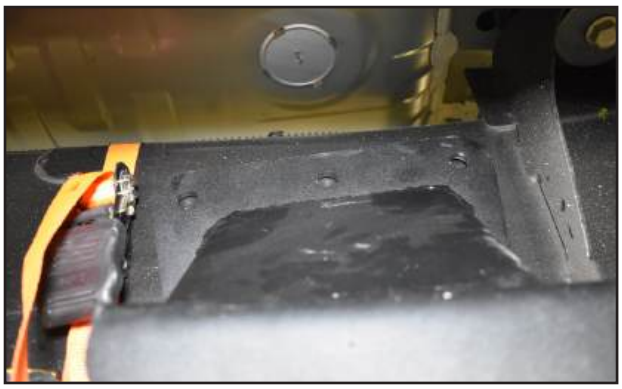


FIGURE 117

FIGURE 118

5. Install the trailing arm bracket to the frame using the two nut tabs along with 1/2" x 1-1/2" flange bolts from Bolt Pack 382 and using red thread locker. Leave hardware loose until all of the hardware in installed. NOTE: Both nut tabs are installed through the same hole so it is recommended to break off the nut tab feeder after installing the bolts into the first nut tab. The nut handle can be broke of by spinning it with pliers.

FIGURE 119

FIGURE 120

FIGURE 121

6. After all the hardware is loosely installed, torque all of the 1/2" bolts to 80 ft-lbs.

REAR BUMP STOP CROSS MEMBERS

1. Insert the square tube plugs into the square bump stop cross-member tube. Tap in with a rubber mallet.

FIGURE 122

2. Install cross member into coil-over / bump stop bracket as shown in Fig. 121, 122 Do this on both sides of the vehicle. The tube may need to be tapped into the mounts with a rubber mallet. Using the 3/8" flange head bolts and flange nuts in Bolt Pack 382, attach the cross member to the coil-over / bump stop bracket. **Be sure to run the bolts back to front to allow re-installation of the truck bed.**

FIGURE 123

FIGURE 124

3. Install the rear bump stops by threading them into the bump stop cups on the rear mount. Install the bump stops as shown in the figure below such that there are 2-3 threads showing.

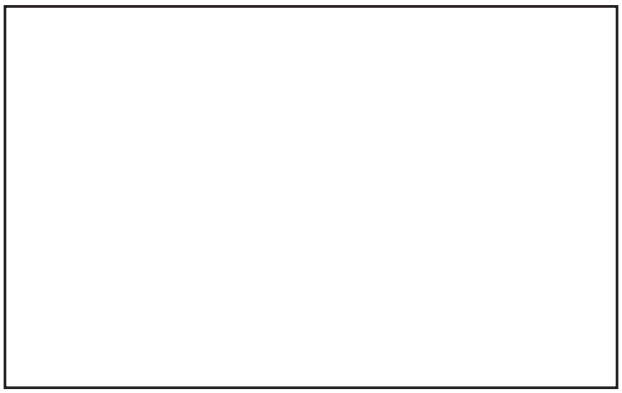


FIGURE 125

TRACK BAR BRACKET

Note: When using red thread locker for installation, typical set time is 10-20 minutes. Ensure all hardware is torqued within this time frame for proper installation of thread locking compound.

1. Locate the track bar brackets and nut tabs.

FIGURE 126

2. Remove the two bolts attaching the OE brake line bracket to the frame on the rear driver side. Drill both of the holes out to 9/16".

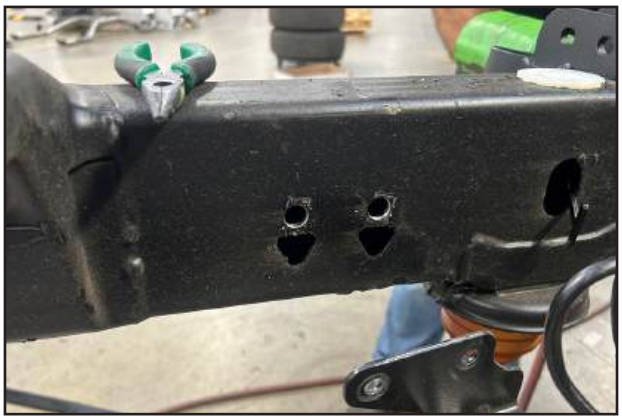


FIGURE 127

3. Find the OE frame hole on the bottom passenger side frame rail behind the coil - over / bump stop bracket. Drill this hole out to 1/2". Temporarily install a 1/2" x 1-1/2" flange bolt from Bolt Pack 382 to locate the trailing arm bracket. Mark the location of the (3) other mounting holes on the track bar bracket.

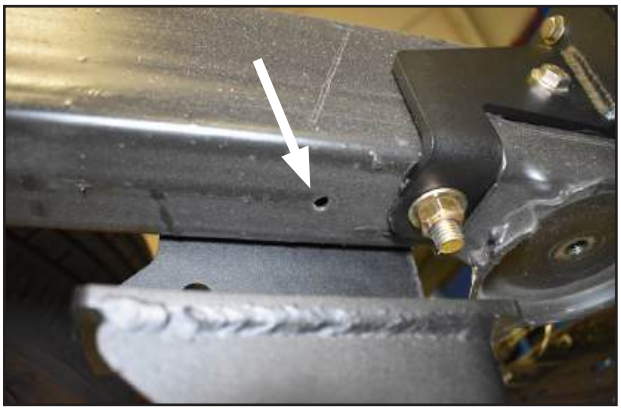


FIGURE 128

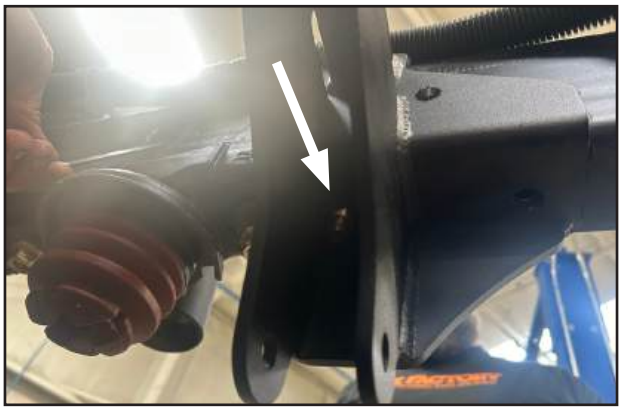


FIGURE 129

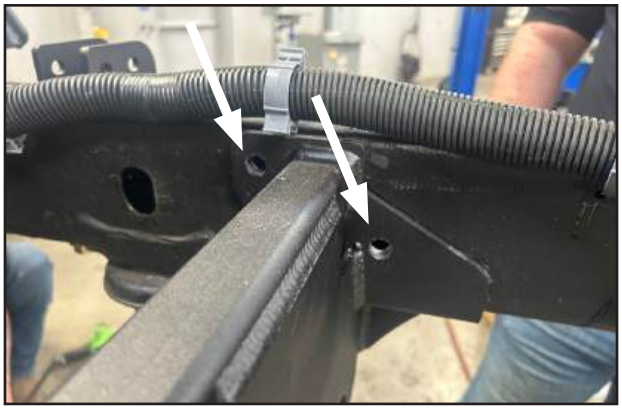


FIGURE 130

4. Remove the track bar bracket from the frame and drill all (4) holes out to 9/16".
5. Install track bar bracket and brake line relocation bracket using the provided nut tab on the drivers side and 1/2" x 1-1/2" flange head bolts from Bolt Pack 382 and red thread locker. Leave hardware loose. The brake line relocation bracket will be on the outside face of the track bar bracket. NOTE: If needed, break off previously installed nut tab handle "T" by twisting to make room for cross member nut tab installation.

FIGURE 131

FIGURE 132

FIGURE 133

FIGURE 134

6. Lift passenger side of the track bar bracket and align with holes drilled in previous step. Insert the nut tab through the factory hole on the back side of the frame rail. Note this factory hole may need to be enlarged with a die grinder to fit the nut tab. Using a pair of pliers to hold the nut tab, line up the holes in the track bar bracket with the frame and attach to the nut tab using (2) 1/2" x 1-1/2" flange bolts from Bolt Pack 382 and red thread locker. Leave hardware loose.

FIGURE 135

FIGURE 136

FIGURE 137

7. Feed coiled end of your fish wire through the drilled holes on the bottom of the track bar bracket and out the inside slotted factory frame hole. Insert the bolt plate onto the fish wire followed by threading on a 1/2" carriage bolt from Bolt Pack 382. Feed the bolt plate and carriage bolt through factory hole pulling on the fish wire such that it is fed through the bottom hole on the track bar bracket. Note not to pull too hard on the fish wire as it can un-thread from the carriage bolt. Un-thread the fish wire from the carriage bolt. Thread on a 1/2" flange nut from Bolt Pack 382 to the carriage bolt. Leave hardware loose. Do this for both holes on the bottom of the track bar bracket.

FIGURE 138

FIGURE 139

FIGURE 140

8. After all the hardware is loosely installed, torque all of the 1/2" bolts to 80 ft-lbs.

IF THE KIT IS OPTIONED WITH THE WELD ON REAR BRACKETS, FOLLOW INSTRUCTIONS IN THE BJK1146002 BOX KIT NOW.

COIL OVER AND TRAILING ARM INSTALLATION - ALL KITS

1. Install the rock guard shown in the figure as shown to the rear trailing arm. Guard should be oriented away from the shock area.

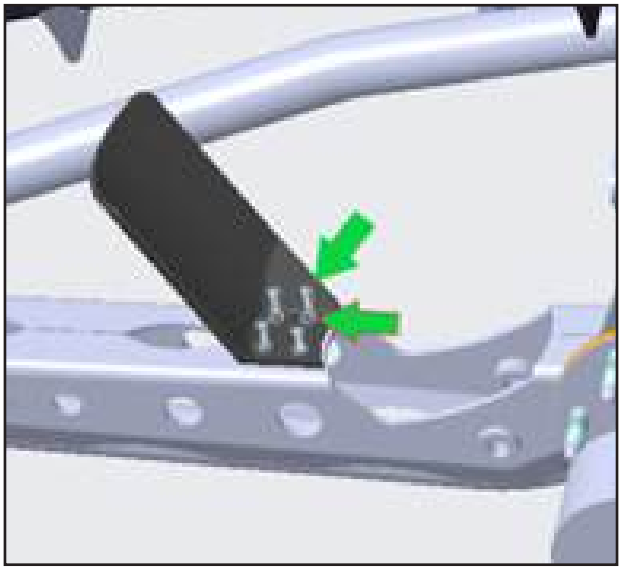


FIGURE 141

2. Install the provided (4) compression limiters, along with a light amount of thread locker, hand tight all (4) provided ¼-28 screws first.
3. Torque all (4) ¼-28 screws to 80 inch-lbs.
4. Mount your coil over to the coil over mount using the provided 14mm x 130mm flange head bolt and flange nut in Bolt Pack 383. Note: Coil over reservoir is side specific to allow for mounting to frame. Before installing make sure the dove tail mount is facing in so that it with attach to the frame mount. Fig. 141 Torque upper coil-over mount hardware to 126 ft-lbs.

FIGURE 142

FIGURE 143

FIGURE 144

5. Install the trailing arms to the trailing arm bracket using a 18mm x 120mm flange head bolt and 18mm flat washer with 18mm nylock nut from Bolt Pack 383. Leave hardware loose.

FIGURE 145

FIGURE 146

6. Mount the trailing arm to coil over as using a 5/8" x 3-1/2" flange head bolt and flange nut from Bolt Pack 383. Torque lower coil-over mount hardware to 180 ft-lbs. Note: Make sure the bolt head is facing the outside of the vehicle.

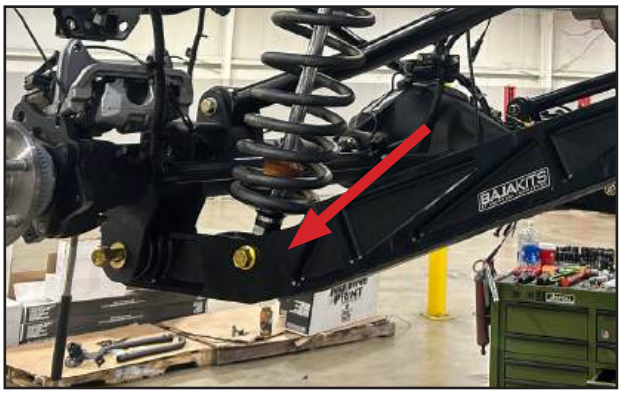


FIGURE 147

7. Install rear reservoir bracket. Drill a 21/64" hole location at 1.1" and 8.4" as shown below.

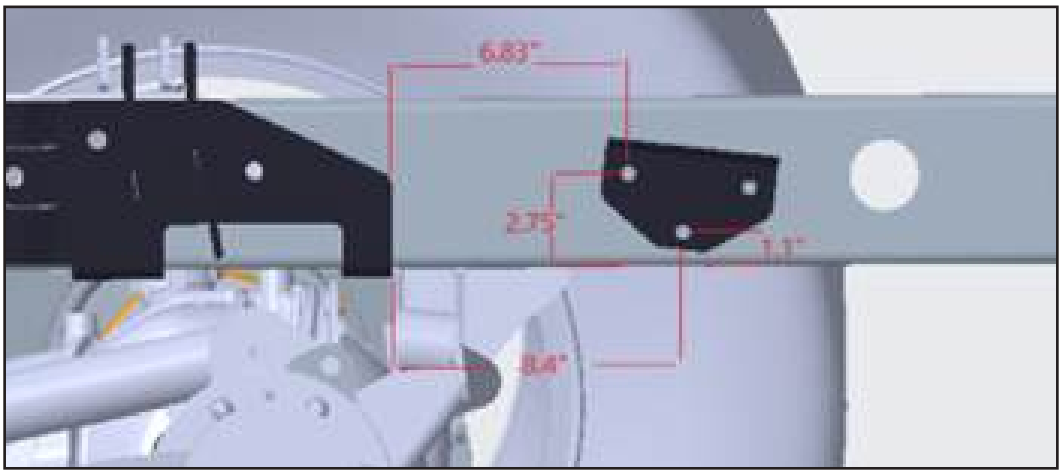


FIGURE 148

8. Paint pen mark the location 6.83" and 2.75". Loosely install the rear reservoir bracket using the supplied self-tapping screw at the 8.4" and 1.1".
9. Rotate the bracket until it lines-up closely with mark at the 6.83" and 2.75" location and drill a 21/64" hole concentric to the bracket hole and then install an included 3/8"-12 self-tapping screw to 25 ft-lbs.
10. The remaining hole can be drilled and all screws (3/8") tightened to 25 ft-lbs.
11. Fastening reservoir assembly to bracket by swinging the rear reservoir-assembly over to the installed rear bracket like shown below.

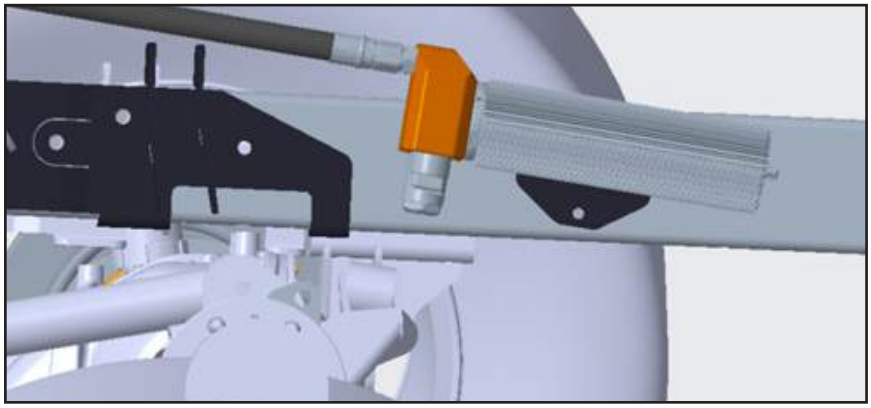


FIGURE 149

12. Insert bracket lip into the lower dovetail groove as shown below. Insert the supplied clamp nuts and slide them over the bracket holes as shown in the below illustration.

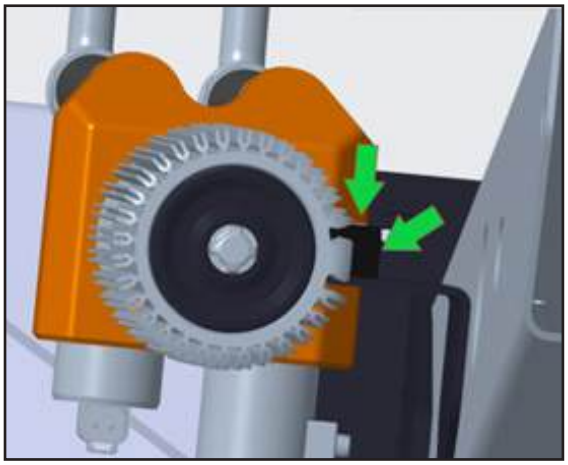


FIGURE 150

13. Loosely install the supplied ¼-20 screws with blue thread-locker. Slide the reservoir assembly on the dovetail clamping system until the reservoir is roughly centered and hoses have ~1/2" clearance to the bump stop bracket as shown below. Tighten the ¼-20 screws to 80 inch-lbs.

FIGURE 151

REAR AXLE FINAL INSTALLATION

1. Install the lower mount on the rear axle to the trailing arms using the 18mm x 120mm flange head bolt and 18mm flat washer with 18mm nylock nut from Bolt Pack 383. Leave hardware loose.

   Note: It may be easier to mount wheels / tires to the rear axle to roll it under and position it under the vehicle.

FIGURE 152

2. Install the rear upper control arm to the frame mount bracket using the provided 14mm x 100mm flange head bolts and flange nuts from Bolt Pack 383. Leave hardware loose. Make sure the bend on the control arm off sets inwards.

FIGURE 153

FIGURE 154

3. Position the rear axle to install the rear upper control arm to the axle mount using the provided 14mm x 100mm flange head bolts and flange nuts from Bolt Pack 383. Leave hardware loose.

FIGURE 155

4. Install the rear track bar to the frame mount bracket using the provided 14mm x 75mm flange head bolts and flange nuts from Bolt Pack 383. Leave hardware loose. Make sure the bend on the track bar off sets towards the rear of the vehicle.

FIGURE 156

5. Position the rear axle to install the track bar to the axle mount using the provided 14mm x 75mm flange head bolts and flange nuts from Bolt Pack 383. Leave hardware loose.

FIGURE 157

6. Remove the OE rear axle brake line bracket from the ABS mount.

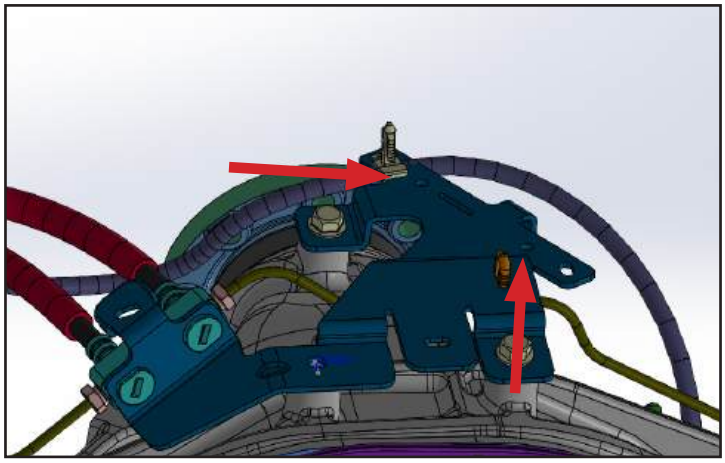


FIGURE 158

7. Cut the OE rear brake line bracket where near where it mounts to the brake lines.

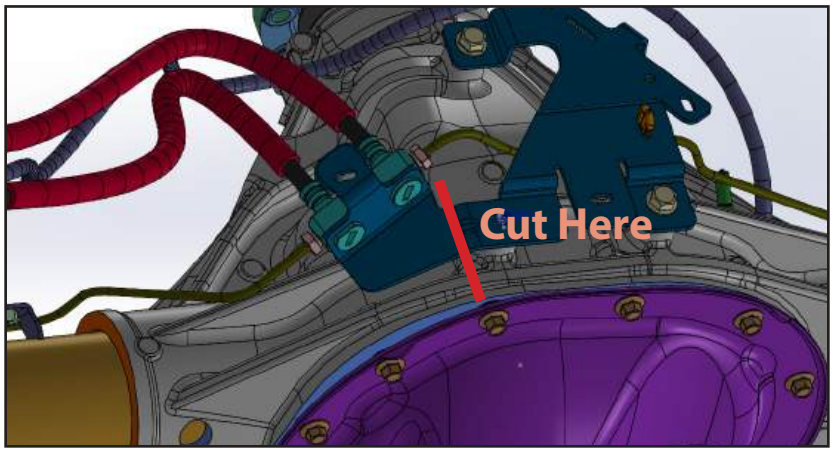


FIGURE 159

8. Install the brake rotor to the rear axle. Reuse the brake rotor retaining bolts if desired.
9. Trim the OE dust shield to fit on the new axle. Install the dust shield along with the OE wire harness mounts to the axle using thread locker and the OE hardware. Torque to factory specifications.

FIGURE 160

FIGURE 161

FIGURE 162

10. Route the brake / ABS line brackets and brake caliper to the wheel ends how the factory configuration was mounted. Do NOT attach to the axle at this time.

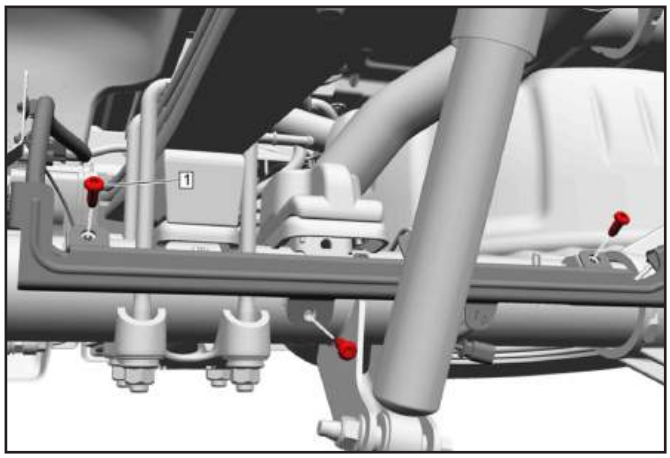


FIGURE 163

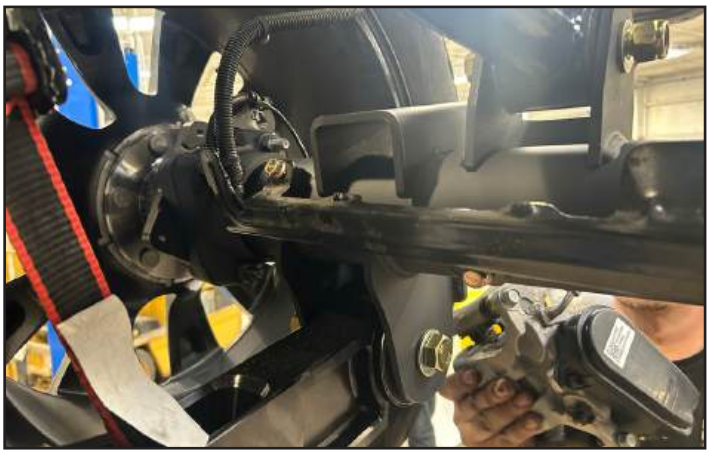


FIGURE 164

FIGURE 165

FIGURE 166

11. Attach the brake caliper to the axle using thread locker and the OE hardware. Torque to a first pass of 37 ft-lbs followed by a final pass of 30-15 degrees.

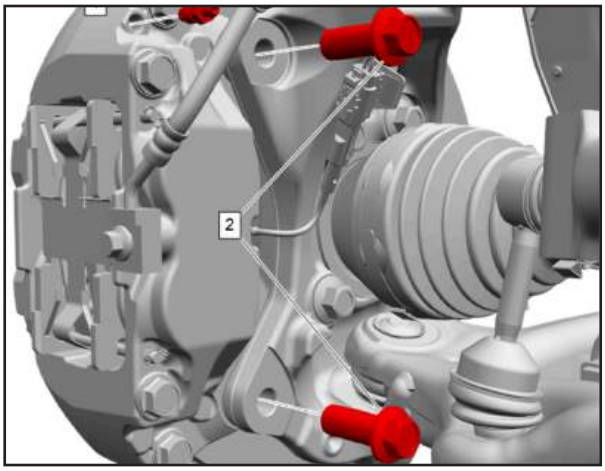


FIGURE 167

FIGURE 168

12. On the driver side only, remove the OE brake line bracket C-clip at the junction of the soft to hard brake line. The brake line bracket should be loose now.

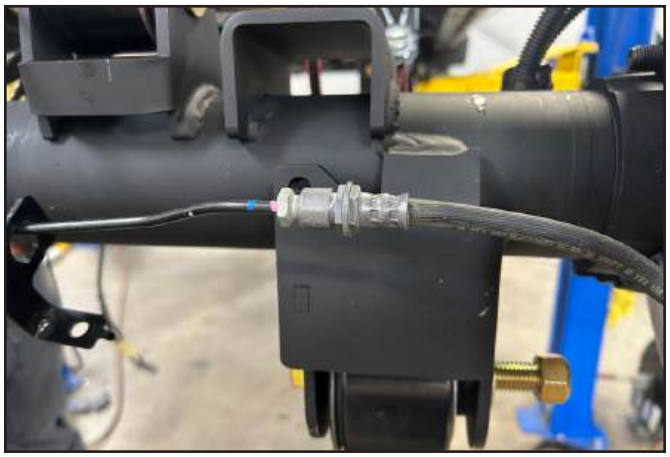


FIGURE 169

13. Crack open the hard line to soft line junction in order to remove and replace the soft line. Remove the OE soft line from the caliper by removing the banjo bolt. Fully unthread the hard line to soft line junction in order to remove the soft line completely. While the soft brake line is removed, remove the OE brake line bracket on the driver side only.

FIGURE 170

14. Use the provided crush washers and OE banjo bolt to install the new soft line to the caliper. On the driver side only install the new provided brake line bracket in the orientation shown. In the passenger side the OE brake line bracket will be reused. Attach the brake line brackets to the axle with the provided 8mm x 16mm flange head bolts from Bolt Pack BP1051and thread locker. Torque the 8mm bolts to 16 ft-lbs. Re-use the OE C-clips to lock the brake line to the bracket.

Note that the brake line system will need to be fully bled with this change.

FIGURE 171

FIGURE 172

15. Attach the brake / ABS line brackets to the axle using thread locker and the 8mm x 12mm flange head bolts in Bolt Pack BP1051. Torque these 6 bolts to 16 ft-lbs. On the driver side, remove the OE hard brake line from the bracket to gain additional slack for clearance to the track bar bracket on the axle. The passenger side hard brake line will remain attached to the brake / ABS line bracket and run towards the wheel end same as the factory configuration.

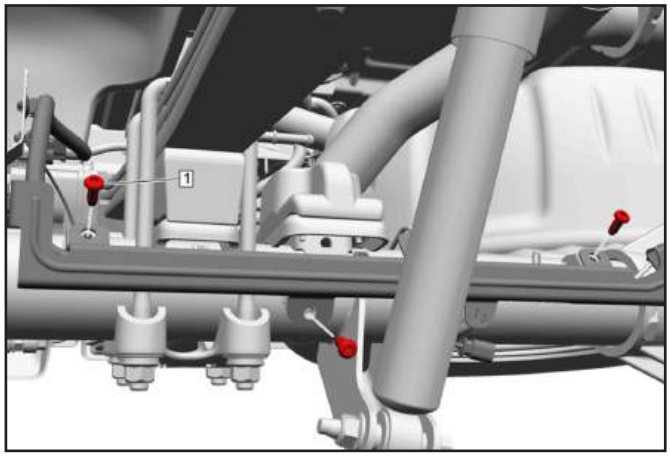


FIGURE 173

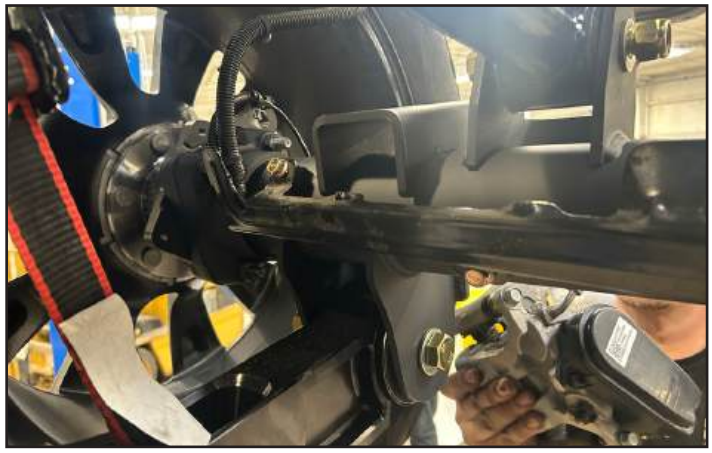


FIGURE 174

FIGURE 175

FIGURE 176

16. Attach the provided rear brake line axle bracket to the top boss of the axle using the provided 5/16" x 1/2" button head bolt and using thread locker. Torque the 5/16" bolt to 178 in-lbs.

FIGURE 177

17. Form the OE brake line junction block and remaining OE brake line axle bracket up so that it can be bolted to the new rear brake line axle bracket. The brake lines should run vertical to the vehicle.

FIGURE 178

18. Mark and drill the (2) holes out to 3/8" to attach the OE brake line bracket and OE brake junction blocks to the new brake line axle bracket already attached to the axle. Attach the two together using the provided 5/16" flange head bolts and flange nuts from Bolt Pack 382.

FIGURE 179

FIGURE 180

19. Attach the ABS block to the rear brake line axle bracket using the provided 1/4" flange head bolts and flange nuts in Bolt Pack 382. Torque the 1/4" hardware to 86 in-lbs.

FIGURE 181

FIGURE 182

20. Using the provided wire clamp and a 1/4" flange head bolt and flange nut in Bolt Pack BP1051 to attach the hard brake line to the ABS / brake line bracket attached to the rear axle. Mark and drill a 5/16" hole as shown in the figure below. Attach the brake line to the bracket and torque the 1/4" hardware to 86 in-lbs.

FIGURE 183

21. Attach the brake line frame mount to the relocation bracket installed in the previous step using the provided 5/16" flange head bolts and flange nuts in Bolt Pack 382.

FIGURE 184

RE-INSTALLING FUEL TANK

1. Place a suitable adjustable jack under the fuel tank. Raise the fuel tank into position in the truck, but not all the way up.
2. Raise the fuel tank, allowing clearance to access connections at the top of the tank. Connect all lines and wire harnesses to the fuel tank.

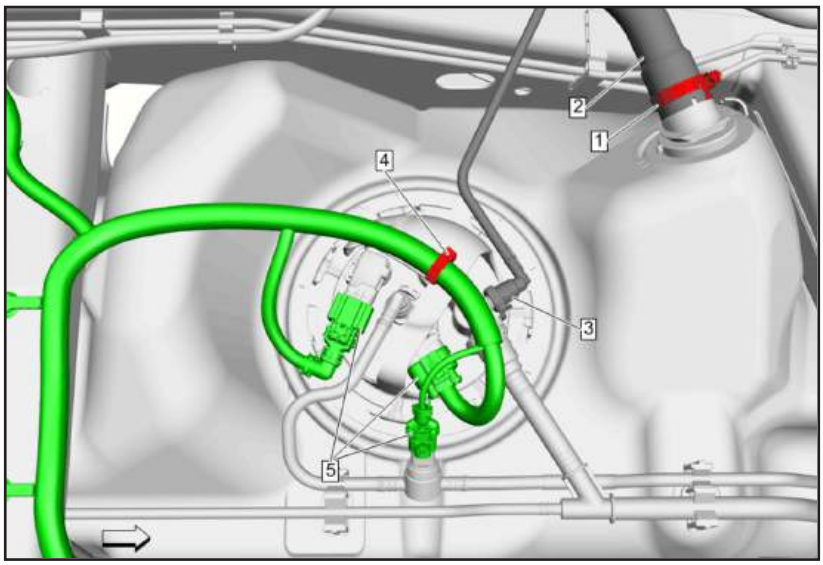


FIGURE 185

3. Gas tank straps are specific to position. Shorter strap is for the front of the tank. Longer is for the back. Re-attach fuel line & Evap. Lines. Re-attach the fuel filler neck and torque the filler neck clamps to 31 inch-lbs.

FIGURE 186

FIGURE 187

FIGURE 188

4. Attach the OE fuel tank straps to the frame using the OE hardware torqued to 16 ft-lbs.
5. With the fuel tank installed, install the new rear driveshaft into the transfer case and then onto the rear axle using the provided U-joint straps. Torque the U-joint straps to 35 ft-lbs.

BED TRIMMING & INSTALLATION

1. The bed will need to be trimmed for clearance to the coil-over mount. The first area to be trimmed is the front part of the inner fender. From the edge over approximately 1-1/4" needs a vertical trim completed as shown in the figures 186, 187, 188 below.

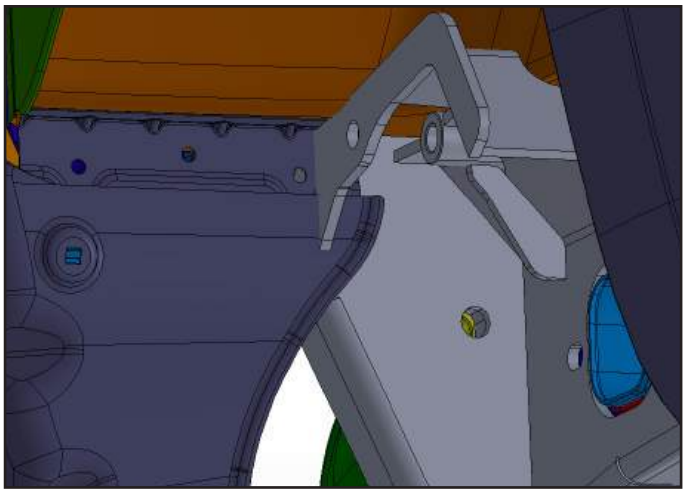


FIGURE 189

FIGURE 190

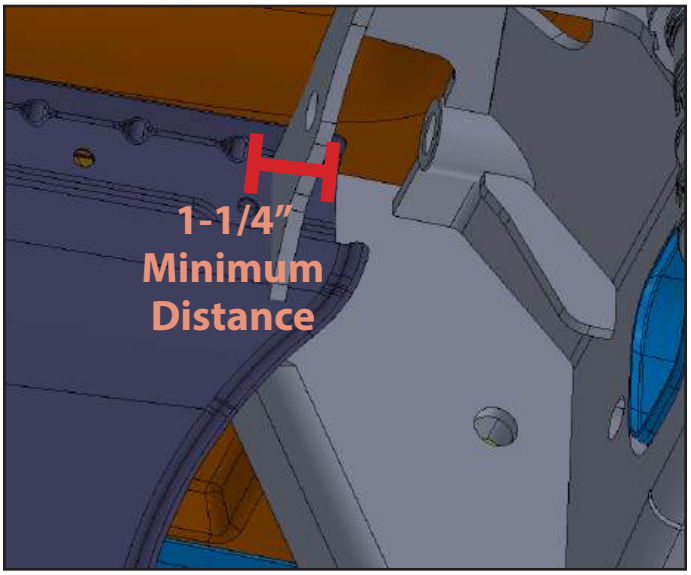


FIGURE 191

2. The last area of the bed needs to be "dented" to slightly create clearance to the coilover mount. The bed will need to be "dented" up about 3/8" on the corner of the fender well at a distance of 3-5/8" from the bed seam as shown in Figure 191. This can be achieved with a ball peen hammer or an air hammer with a rounded end on the air hammer. The bed is very thin and can easily be dented for clearance. F

FIGURE 192 - VIEW FROM BOTTOM OF BED

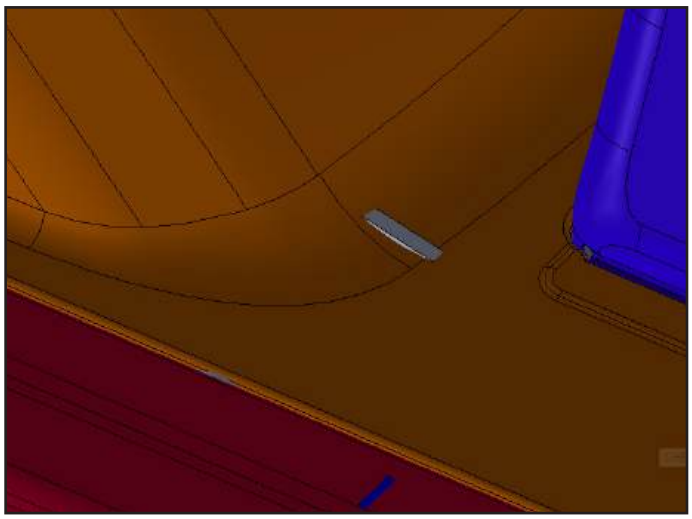


FIGURE 193 - VIEW FROM INSIDE THE BED

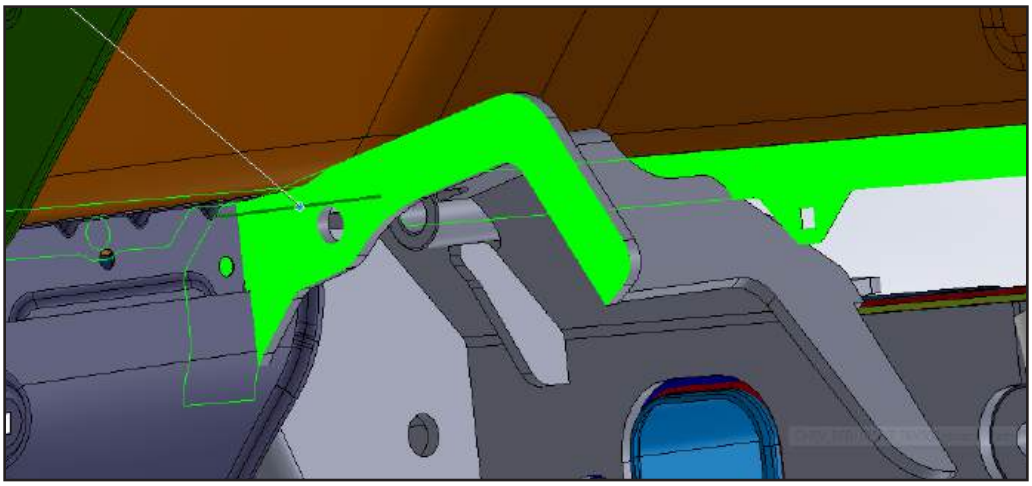


FIGURE 194

3. The second part of the bed to be trimmed is the seam on the bottom side. The seam will need to be trimmed between the bed rail and the square hole. This length is approximately 10-1/4" as shown in the figures below.

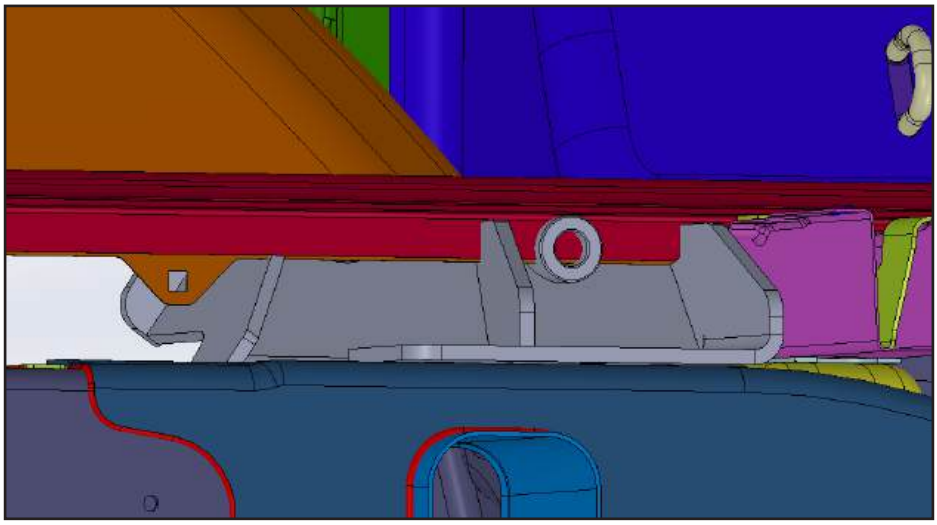


FIGURE 195

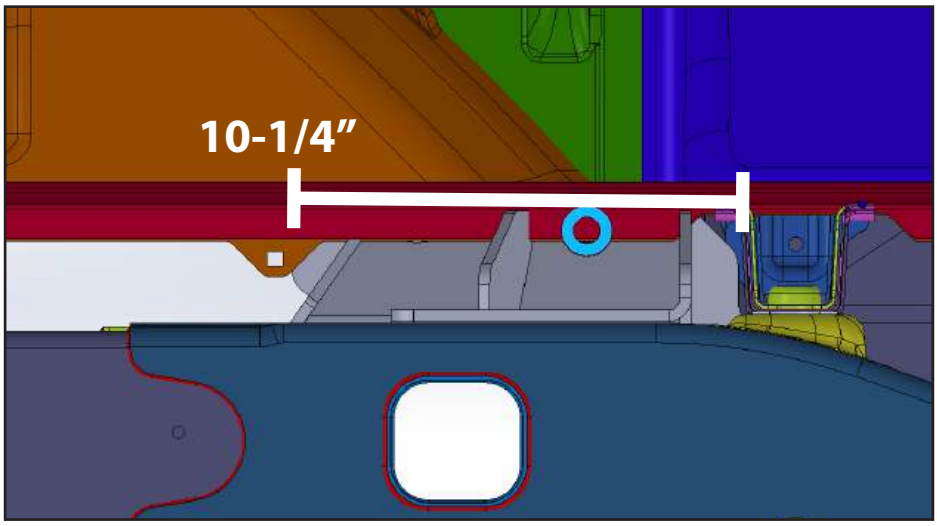


FIGURE 196

4. After the bed trimming is completed on the passenger and driver side, the bed can be reinstalled onto the frame. With the help of assistant, install the bed lining up the locating pins on the frame with the bed. Use the OE bed mount hardware and torque to 63 ft-lbs.

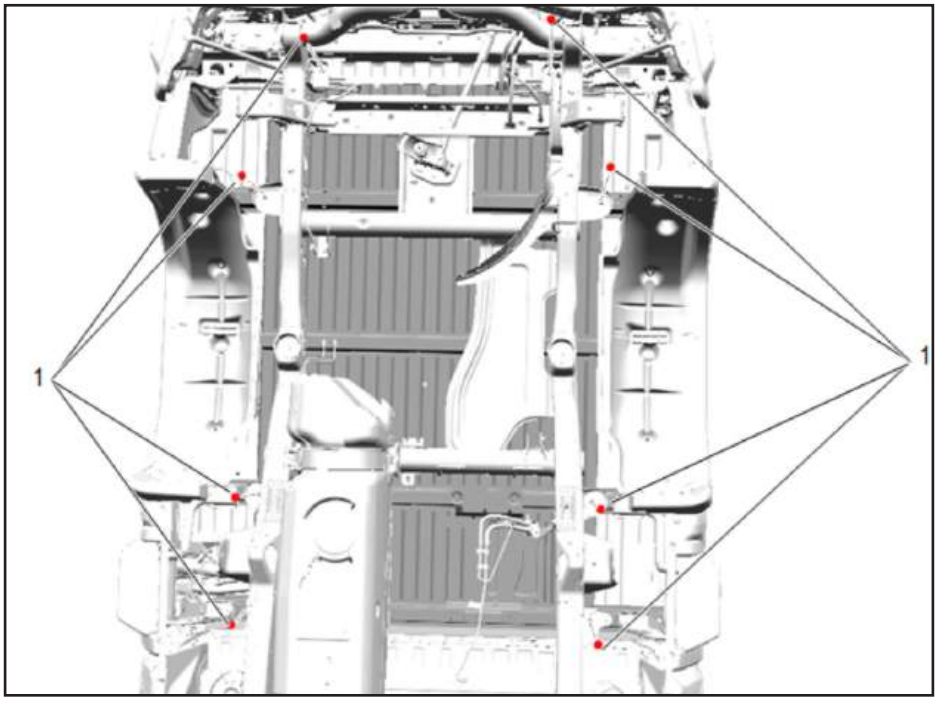


FIGURE 197

5. Connect the electrical connectors and install the wiring harness retainers as necessary.
6. Connect the fuel tank filler pipe and ground bolts to the frame. If aftermarket fenders are used, this attachment method may need to be modified.

7. Position the fuel tank filler pipe housing to the pickup box outer side panel and the fuel filler pipe. If aftermarket fenders are used, this attachment method may need to be modified.

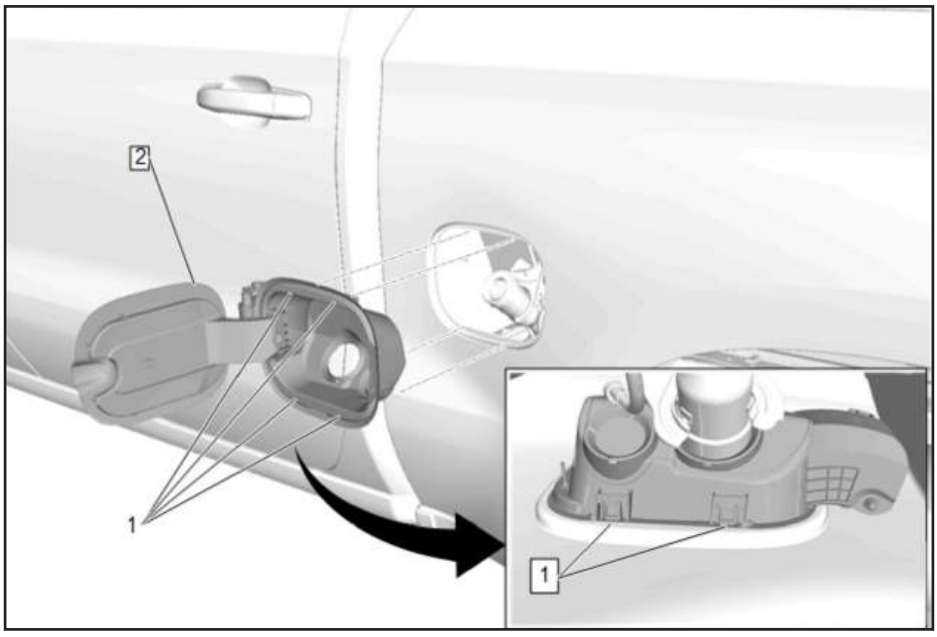


FIGURE 198

8. Reinstall the wheel well liner if equipped. If aftermarket fenders are used, this attachment method may need to be modified.
9. With the aid of an assistant, install the tailgate and attach the cables to the box. Torque the cable bolts to 22 ft-lbs. Install the tailgate hinge bolt and torque to 16 ft-lbs.

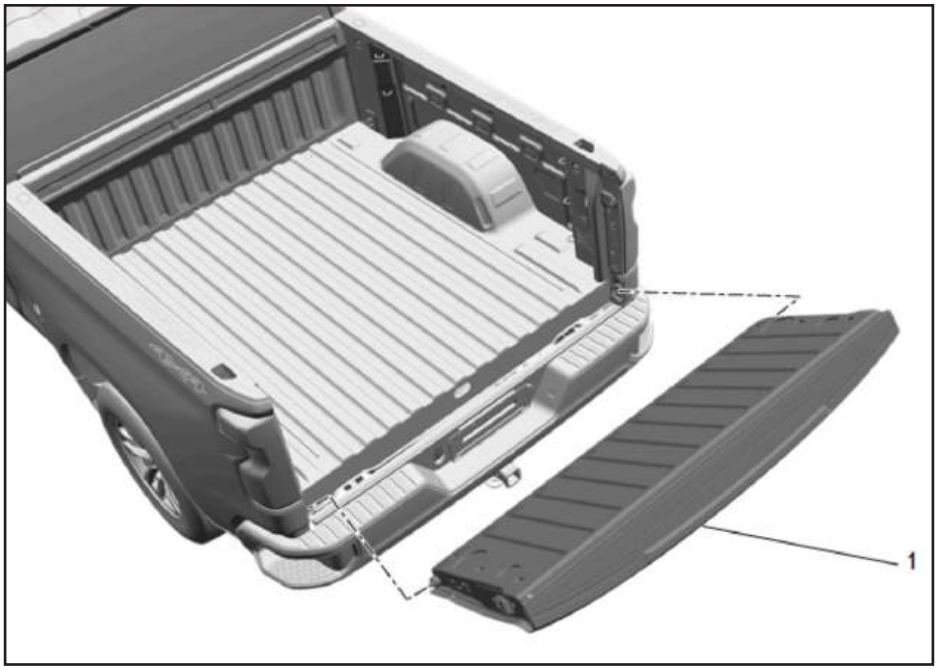


FIGURE 199

10. Connect the electrical connector and install the tailgate wiring harness retainers
11. With the aid of assistant, install the rear bumper to the vehicle. Torque the bumper nuts to 52 ft-lbs (#4 in fig. 196 below).
12. Torque the side bumper nuts to 74 ft-lbs (#5 in fig. 197 below).
13. Torque the bottom bumper bolts to 16 ft-lbs (#1 in fig. 197 below).

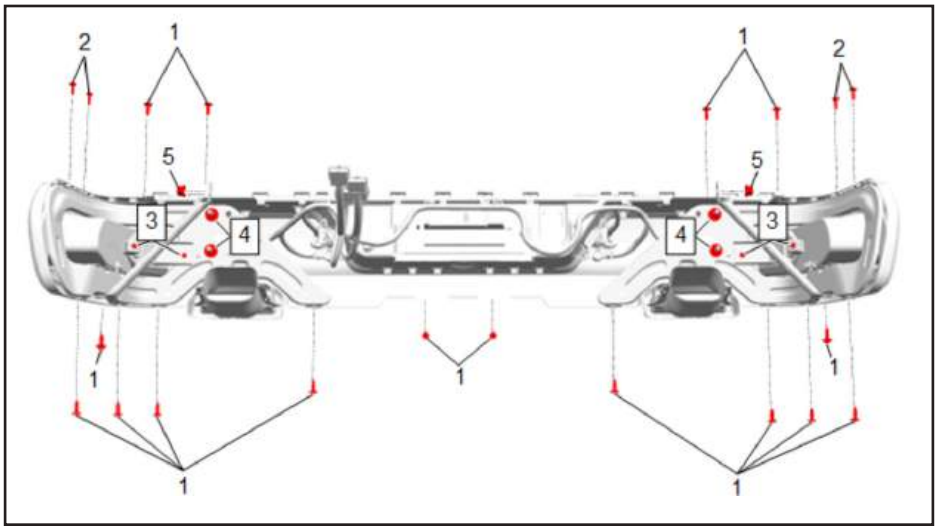


FIGURE 200

FRONT DISASSEMBLY

1. Remove front tie rod retaining nut. Fig. 198 The tie rod and nut will not be reused.

FIGURE 201

1. Use hammer to strike bottom of tie rod to separate tie rod from steering knuckle.

FIGURE 202

2. Remove the brake line retaining bracket and bolt from the knuckle.

FIGURE 203

3. Remove the ABS line retaining bracket and bolt from the front side of the knuckle.

FIGURE 204

4. Remove the line bracket from the upper control arm.

FIGURE 205

5. Remove the line bracket and bolt from the upper part of the knuckle.

FIGURE 206

6. Remove the ABS sensor from the knuckle. Taking care not the damage the sensor.

FIGURE 207

FIGURE 208

7. Remove the brake caliper by removing the 2 caliper bolts Fig. 206, 207 on the driver side the brake pad sensor wire will need to be removed from the knuckle. Hang your caliper in a secure place in order to protect your brake line.

FIGURE 209

FIGURE 210

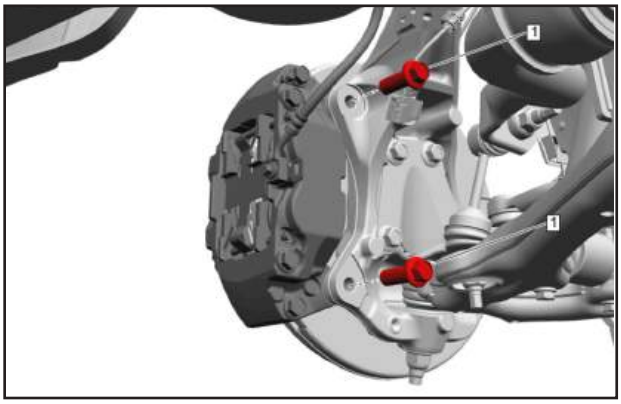


FIGURE 211

FIGURE 212

8. Remove the brake rotor retaining bolt and remove the rotor from the vehicle. Save the bolt and rotor for later install.

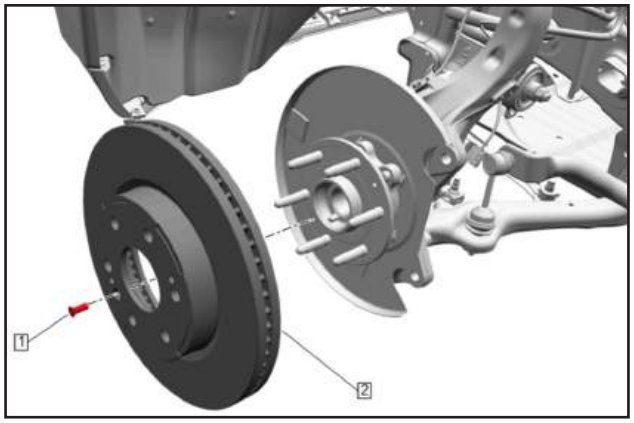


FIGURE 213

9. Remove the CV shaft retaining nut. Note the CV shaft and nut will not be reused.

FIGURE 214

10. Loosen the upper ball joint nut, do not remove.

FIGURE 215

11. Strike knuckle to separate the ball joints tapered rod from knuckle. Do not remove nut at this point.

FIGURE 216

12. Tap axle end to dislodge splines from the bearing cup.

FIGURE 217

13. Loosen the lower ball joint nut but do not remove.

FIGURE 218

14. With the bottom ball joint nut loosened to the end of the threads, strike with hammer to separate the ball joint and knuckle. Fig.216 Remove the upper and lower ball joint nuts. Remove the steering knuckle from the vehicle and set aside. Fig. 217 The upper and lower ball joint nuts will not be reused. The hub bearing assembly will be transferred to the new steering knuckle later in the installation.

FIGURE 219

FIGURE 220

15. Remove nut to disconnect sway bar from lower control arm. The nut and sway bar link will not be reused.

FIGURE 221

16. Mark orientation of the sway bar relative to the vehicle. Remove the 4 bolts attaching the sway bar to the vehicle. Remove and set the sway bar aside for re-installation later. Save hardware.
17. Remove the OE sway bar links from the sway bar. The OE links and OE link hardware can be discarded.
18. Remove both lower strut bolts. The strut bolts and strut will not be reused.

FIGURE 222

19. Loosen both lower control arm cam bolt / nuts. Fig. 220, 221 Once loosened, remove cam bolts and remove lower control arm from the vehicle. Fig. 222, 223 The lower cam bolts, nuts, and lower control arm will not be reused.

FIGURE 223

FIGURE 224

FIGURE 225

FIGURE 226

20. Remove axle shafts using a pry bar to loosen the inner CV joint housing from the front differential. Fig. 224 The CV shafts will not be reused.

FIGURE 227

21. Remove strut from strut tower by removing the (3) nuts on top of the strut tower. Fig. 225 The rear strut nut can be accessed from the engine bay with an extension. Fig. 5134 The struts will not be reused.

Note: On the drivers side strut tower the wiring harness retainer Fig. 224 will need to be pried off of the rear strut bolt to gain access to the rear strut nut. On the passengers side the wiring harness box will need to need to be pried off of the strut bolt to gain access to the strut nut.

FIGURE 228

FIGURE 229

22. Remove the upper control arm by removing the control arm bolts and nuts. The upper control arms and upper control arm bolts / nuts will not be reused.

FIGURE 230

FIGURE 231

FIGURE 232

23. Remove the outer rack and pinion boot clamp. Fig. 230. Remove the inner rack and pinion boot clamp by inserting a flat head screwdriver into shown slot on clamp and twist to break loose. Fig. 231

FIGURE 233

FIGURE 234

24. Slide the rack and pinion boot down to gain access to the large tie rod nut. Break loose with a pipe wrench, thread off by hand . The inner / outer tie rod assembly and boot with clamps will not be reused.

FIGURE 235

FIGURE 236

FRAME CLEARANCE CUT

1. Notch out the front frame pocket on the front and back side as shown for clearance of the bump stop bolt on the lower control arm.

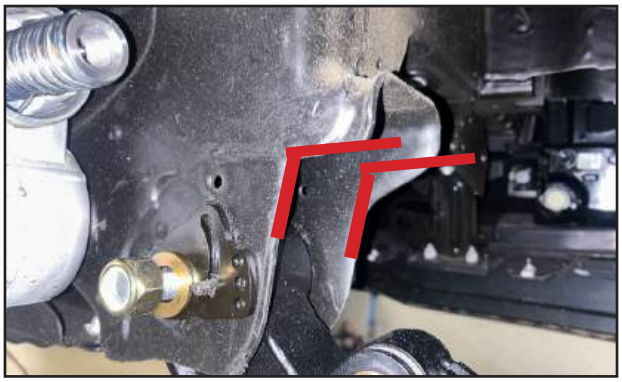


FIGURE 237

DIFFERENTIAL REMOVAL

1. Remove the front splash shield and differential skid plate. Save hardware for re-installation.

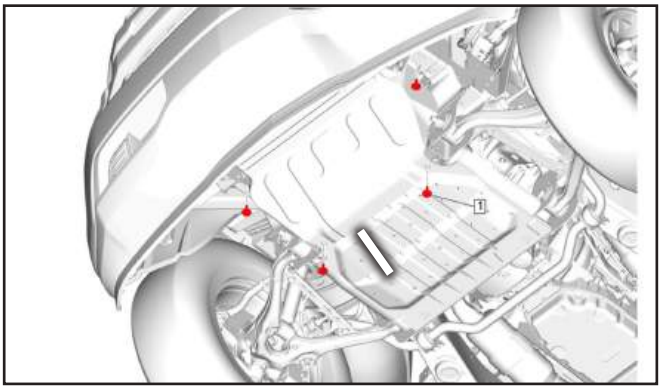


FIGURE 238

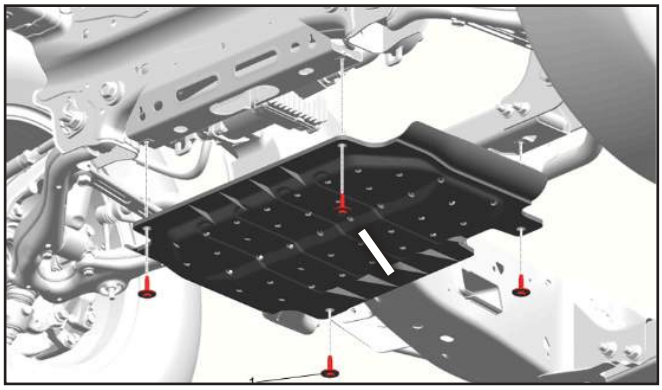


FIGURE 239

2. Make an alignment mark to show the relationship between the front driveshaft and the differential yoke. Remove the six driveshaft bolts and disconnect the driveshaft from the differential. Save hardware for re-installation.

FIGURE 240

3. Remove the bolt attaching the differential to the rear cross member. Save hardware for re-installation.

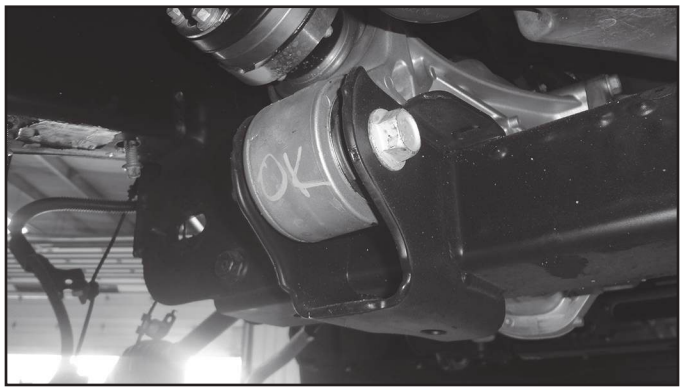


FIGURE 241

4. Remove the factory rear cross member from the vehicle by removing the 4 bolts. Save hardware and cross-member for re-installation.

FIGURE 242

5. Disconnect the differential actuator wire connector from the actuator.

Tip *If you are having difficulty accessing the plug, wait until the differential is being lowered to disconnect it.*

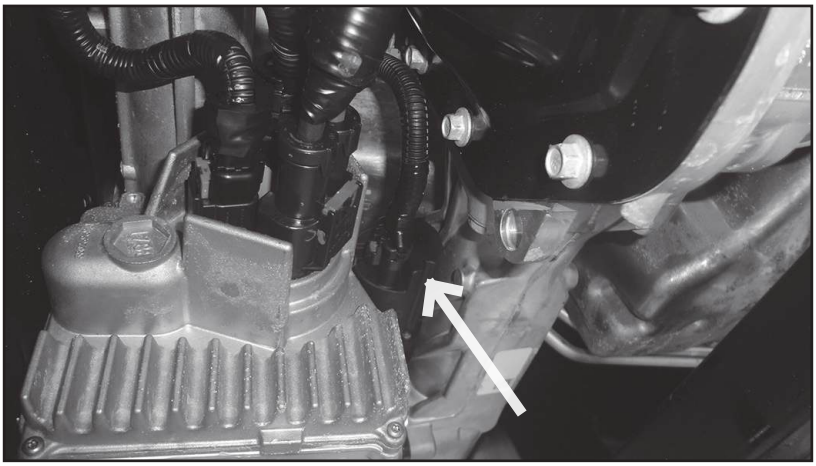


FIGURE 243

6. Disconnect the differential breather hose.

Tip *The differential may need to be lowered a little bit to disconnect the breather hose. This can be done as the differential is being removed.* Note: Shown with differential removed for clarity

FIGURE 244

7. **Diesel Models Only:** Remove the transmission cooler line near the from drive shaft attached to the transmission.
8. Support the front differential with an appropriate jack. Remove the driver's side differential mounting bolts. Save hardware for re-installation.

Tip *We highly recommend having an assistant to help with removal of the front differential.*

FIGURE 245

9. Remove the nut from the passenger's side differential mounting bolt. Carefully lower the differential to the ground while removing the long bolt for the passenger's side differential mount.

Tip *The bolt holding the actuator may need to be removed in order to aid in removal of the long bolt for the differential. Reinstall the bolt for the actuator after it has been removed. It also helps to push the rear of the differential upwards to point the bolt head downwards to aid in removal.*

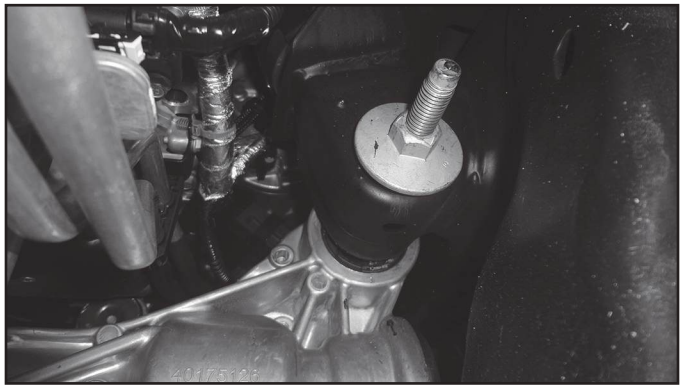


FIGURE 246

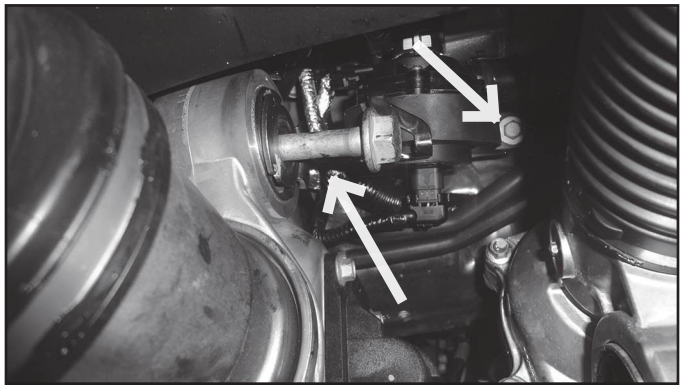


FIGURE 247

10. If re-gearing the front differential to match the rear axle when the ratio has changed, it is recommended to do this at this time. Follow the OE procedure for re-gearing the front differential.

STEERING STABILIZER / MOUNT INSTALLATION

1. Remove the two wire harness mounts from the front side of the steering rack.

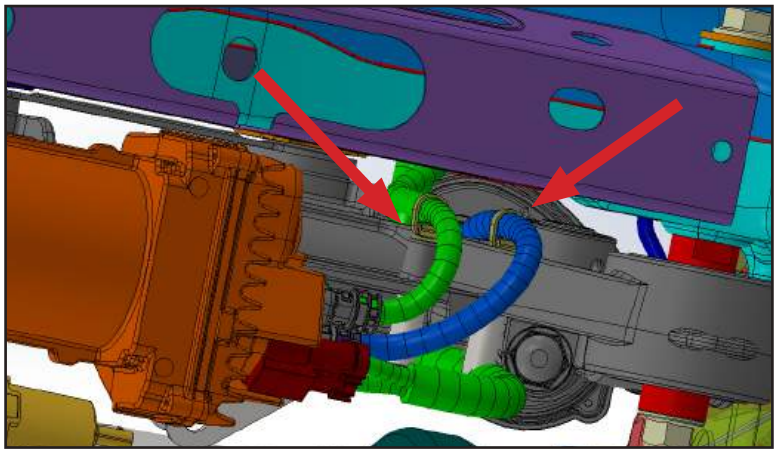


FIGURE 248

2. Remove the wire harness mount from the back side of the steering rack.

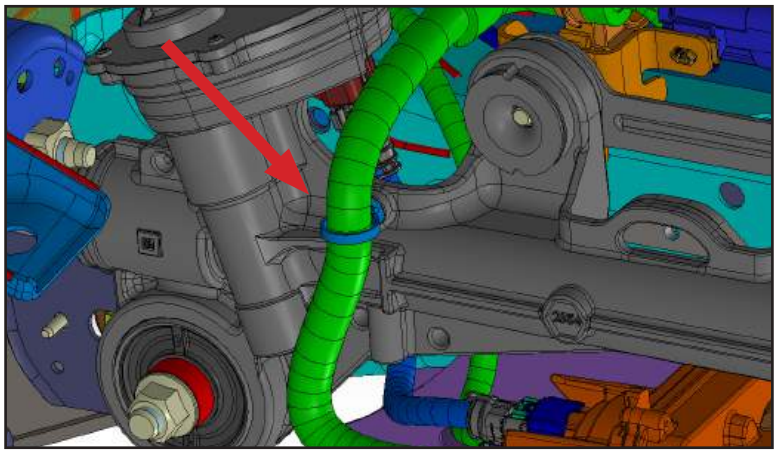


FIGURE 249

3. Install the steering stabilizer mount to the steering rack. The stabilizer mount should nest onto the steering rack with the pin going into the wire harness mount on the back side of the steering rack.

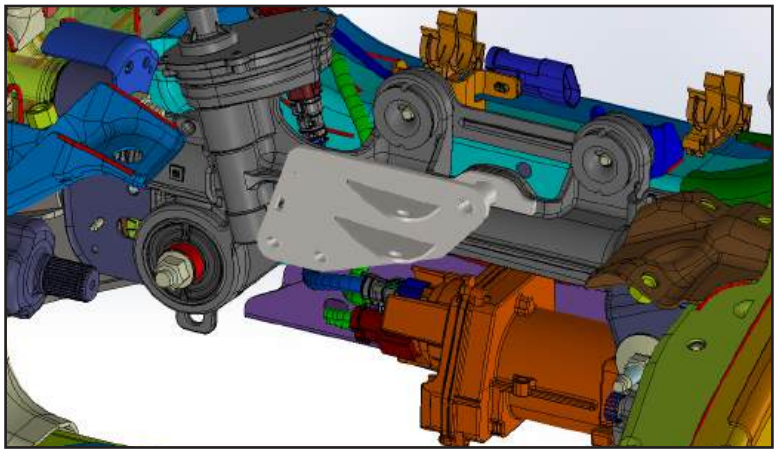


FIGURE 250

4. Install a 3/8" flange head bolt from BP1072 with thread locker through the hole on the passenger side and thread it into the nut plate installed on the front side of the steering rack. Leave hardware loose.

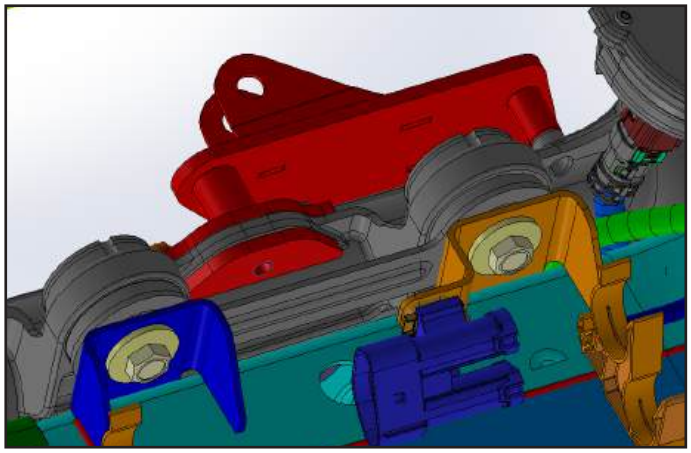


FIGURE 251

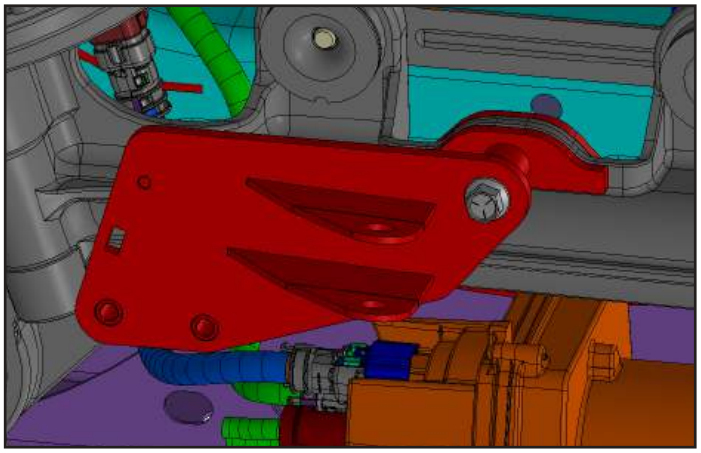


FIGURE 252

5. Install a 6mm washer and a 1/4" x 3-1/4" bolt from Bolt Pack BP1072 through the (2) mounts on the bottom driver side of the steering stabilizer mount. Attach on the back side with a 6mm washer and 1/4" nut from Bolt Pack BP1072. Leave hardware loose.

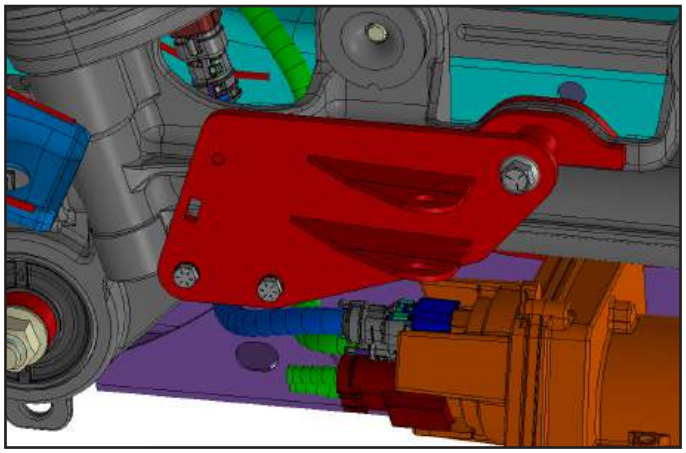


FIGURE 253

6. Torque the 1/4" hardware to 10 ft-lbs followed by the 3/8" hardware to 25 ft-lbs.

7. Install the steering stabilizer body side to the mount using the provided 12mm x 60mm flange head bolts and flange nuts in Bolt Pack BP1072. Make sure the hose for the reservoir is pointed straight down. Torque the 12mm hardware to 30 ft-lbs. The shaft side of the steering stabilizer should be pointing towards the passenger side of the vehicle and will be attached to the tie rod later in the installation. Secure the steering stabilizer out of the way for differential install.

FRONT DIFFERENTIAL INSTALLATION

1. Reinstall the front differential at this time in reverse order as previously removed using the OE hardware.
2. Reinstall the rear cross-member using OE hardware. Torque the four cross-member bolts to a first pass of 75 ft-lbs and a final pass of 90-105 degrees.
3. Torque the driver side through frame bolt to 74 ft-lbs.
4. Torque the passenger side frame mount bolt and nut to 96 ft-lbs.
5. Torque the driver side rear cross-member mount bolt and nut to a first pass of 85 ft-lbs followed by 68 degree final pass.
6. Remove any loose cured adhesive from the external threads from the six front drive shaft bolts. Realign the front driveshaft to the mark on the differential made earlier. Apply thread locker and torque the six front drive shaft bolts to 48 ft-lbs.
7. Reinstall the front wire harness to the front differential.

STEERING STABILIZER RESERVOIR MOUNT

1. Temporarily mount the provided reservoir bracket at 2.0" and 1.5". Using a paint pen marker mark a point at 2.0" and 1.5" as shown in the previous figure.

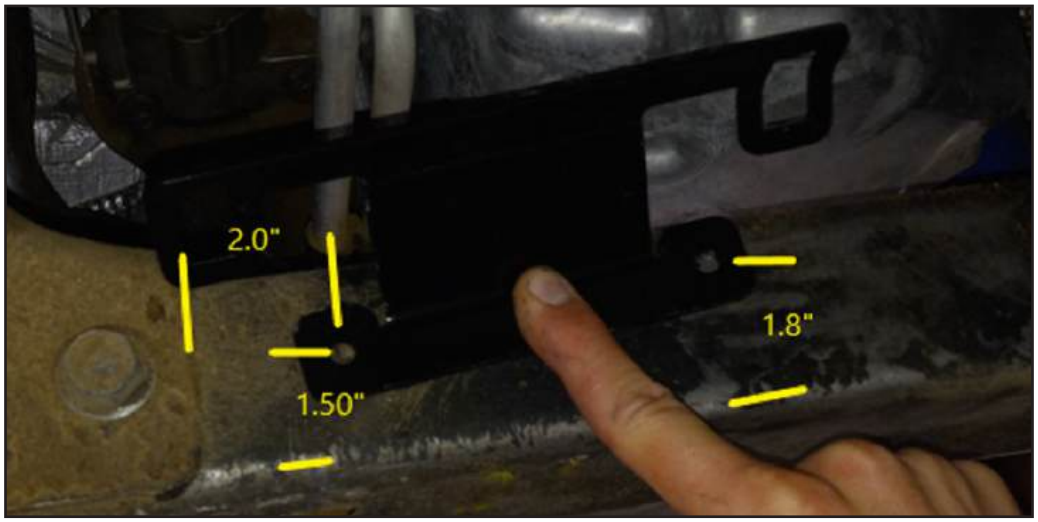


FIGURE 254

2. Place the bracket centered on this point.
3. Use the supplier 1/4" self-drilling / self-tapping to mount this point and torque loosely.
4. Fully mount the provided reservoir bracket at the 1.8" position shown in the previous figure. Rotate the bracket until the remaining mounting hole is position at 1.8" as shown the below picture. Use the supplier 1/4" self-drilling / self-tapping to mount this point. Torque both screws to 4.5 ft-lbs.
5. Place hose clamps loosely on the reservoir bracket within the centering grooves as shown below.

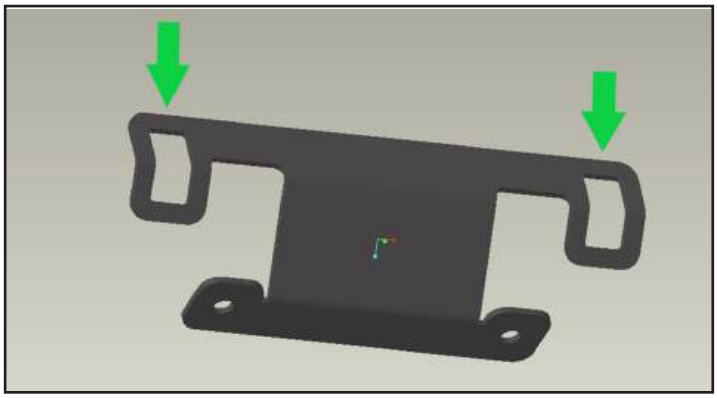


FIGURE 255

6. Slide the reservoir assembly into the hose clamps with it centered on the bracket as shown below. Position the gear housing portions of the hose clamps away from the bottom of the vehicle but easily accessible as shown the below picture. Fig. 253
7. Allow the connecting hose to influence where the reservoir wants to rotate.
8. Tighten the hose clamps to 15 inch-lbs.

FIGURE 256

9. Check for hose clearance. ~1/2" clearance to components as it routes to the steering stabilizer body is best. Loosening and rotating the reservoir slightly can improve clearance if needed. Remembering to re-tighten the hose clamps.
10. Reinstall the front splash shield and differential skid plate. Torque the differential skid plate hardware to 43 ft-lbs. Torque the splash shield hardware to 16 ft-lbs.

FRONT BUMP STOP BRACKET INSTALLATION

Note: When using red thread locker for installation, typical set time is 10-20 minutes. Ensure all hardware is torqued within this time frame for proper installation of thread locking compound.

1. Locate the front bump stop frame brackets and nut tabs.

FIGURE 257

FIGURE 258

2. If needed, mark and trim inner fender to allow space for bump stop bracket install.

FIGURE 259

FIGURE 260

FIGURE 261

FIGURE 262

3. Align bracket with lower right factory hole, mark and center punch for drilling. Fig. 259 Drill the (3) marks out to 1/2" holes as shown.

FIGURE 263

FIGURE 264

4. Install nut tab for the (2) lower bolts through the factory frame hole found on the inside of the frame. Apply red thread locker and install the 7/16" x 1-1/2" bolts from Bolt Pack BP1047. Leave hardware loose.

Note: Edges of nut tab may need to be ground down due to internal frame gusset variation.

FIGURE 265

FIGURE 266

FIGURE 267

FIGURE 268

Internal Frame Gusset Shown

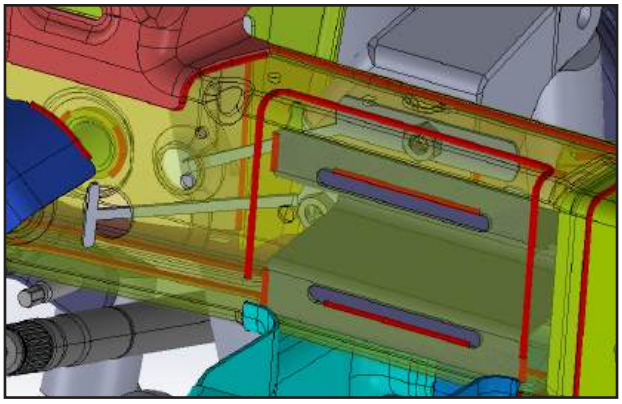


FIGURE 269

5. Install nut tab for upper bolt through the factory hole found on the outside of the frame as shown. Apply red thread locker and install the 7/16" x 1-1/2" bolts from Bolt Pack BP1047. Leave hardware loose.

FIGURE 270

FIGURE 271

FIGURE 272

6. Torque all (3) 7/16" bolts to 59 ft-lbs. Break off nut tab feeder T handle from the outside factory hole to avoid any contact with the coil spring.
7. Remove factory droop limiter. Coat with paint after removal to prevent rust.

FIGURE 273

UPPER CONTROL ARM INSTALLATION

8. Install the upper control arm with the provided 14mm x 90mm flange bolts and flange nuts in Bolt Pack BP1046 from the inside of the strut bucket outwards. Leave hardware loose.

FIGURE 274

FIGURE 275

FIGURE 276

TIE ROD INSTALLATION

1. Thread the inner tie rod joint into the steering rack. Torque the inner tie rod to the steering rack to 89 ft-lbs.
2. Install the tie rod boot over the steering rack. Secure the tie rod boot to the steering rack using the larger provided boot clamp.
3. Install the tie rod boot to the tie rod in the groove using the smaller provided boot clamp.

FIGURE 277

4. On the passenger side, mount the steering stabilizer mount to the flat on the tie rod. Use the provided 1/4" x 1-1/4" socket head cap screws in Bolt Pack BP1072 and thread locker. Torque the 1/4" hardware evenly in the sequence shown below using the following steps.
    1. Snug up all 4 bolts and sure the gap on both sides is approximately the same.
    2. Torque all 4 bolts to 10 ft-lbs in the order shown below.
    3. Final torque pass of all 4 bolts to 16 ft-lbs in the order shown below.

FIGURE 278

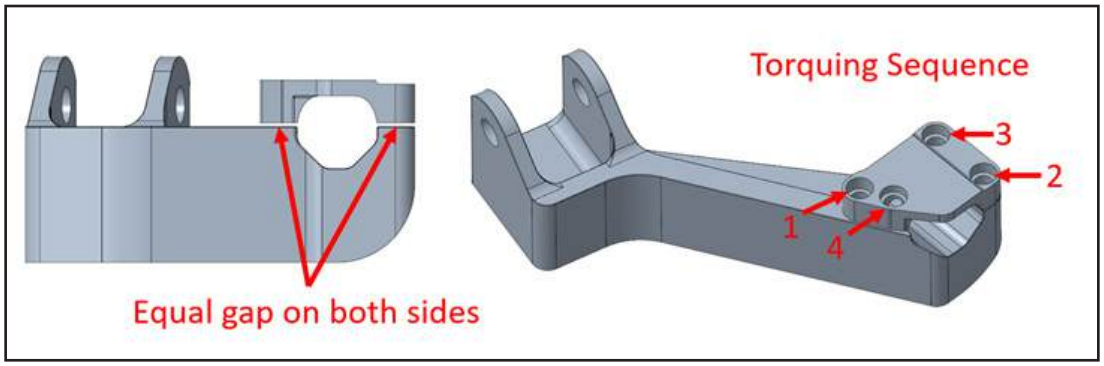


FIGURE 279

5. Attach the shaft side of the steering stabilizer to the mount attached to the tie rod using the provided 12mm flange head bolt and flange nut in Bolt Pack BP1072. Torque the 12mm hardware to 30 ft-lbs.

LOWER CONTROL ARM INSTALLATION

1. Remove the front wheel bearing from the OE steering knuckle. Save hardware.

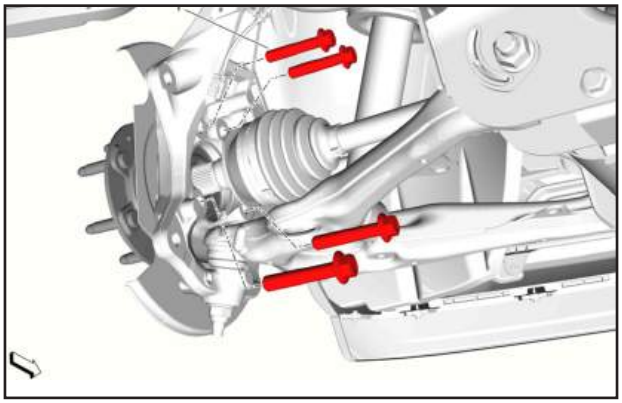


FIGURE 280

2. Remove the (2) O-rings from the knuckle hub bore.

FIGURE 281

3. Install the (2) O-rings from the OE steering knuckle into the replacement steering knuckle.

FIGURE 282

4. Install the front wheel bearing and OE dust shield into the replacement steering knuckle using the OE wheel bearing bolts and thread locker. Torque the wheel bearing bolts with a first pass to 111ft-lbs followed by 30-45 degree final pass.

FIGURE 283

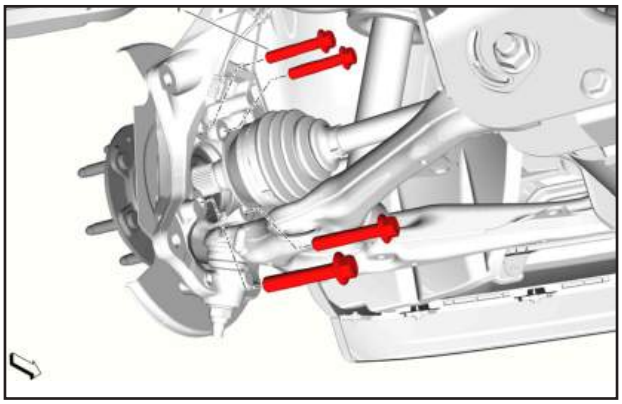


FIGURE 284

5. Install the cam bolt into the cam washer. The cam bolt and washer will install so that the (3) individual holes are towards the bottom of the frame. Install the front cam bolts so that the nuts are towards the rear of the vehicle. Install the rear cam bolt so that the nuts are towards the front of the vehicle.

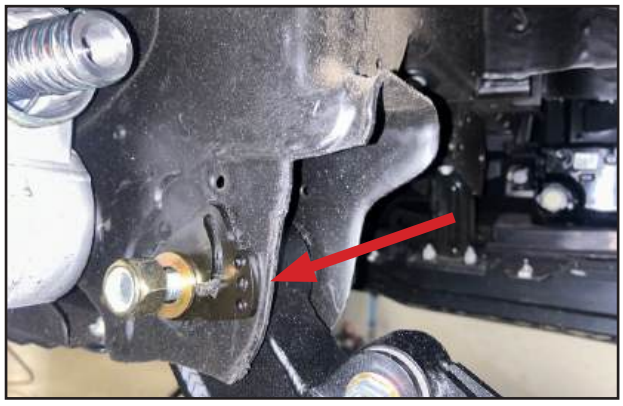


FIGURE 285

FIGURE 286

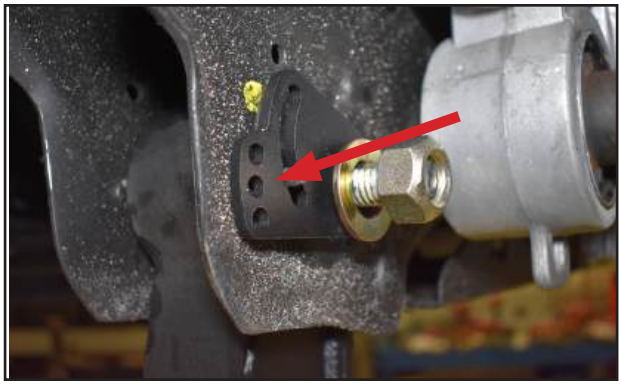


FIGURE 287

FIGURE 288

6. Install the lower control arm with the cam bolt/ washer. Install the cam washer on the opposite side such that the orientation is the same with the (3) individual holes towards the bottom of the frame.

FIGURE 289

7. Install the bump stop slapper link to the lower control arm using the provided 12mm x 65mm flange head bolt and flange nut in Bolt Pack BP1047 . Install the hardware such that the head of the bolt is towards the front of the vehicle.

FIGURE 290

8. Place a screw jack under the lower control arm to hold up in order to set upper control arm torque for the correct ride height. Protect the lower control arm from scratches from the jack.

FIGURE 291

9. Install the front CV shaft to the front differential. The CV shaft should lock in place and not be able to be pulled out of the differential by hand. The front CV shaft can be allowed to rest on the lower control arm until the steering knuckle is installed, be sure to protect the CV shaft from scratches and pinching the boots.

FIGURE 292

FIGURE 293

STEERING KNUCKLE INSTALLATION

1. Install the front steering knuckle assembly to the lower ball joint feeding the CV shaft into the front wheel bearing. Use the provided hardware to attach the lower ball joint to the steering knuckle. Torque the lower ball joint hardware to a first pass of 37ft-lbs followed by 125-135 degrees. Install the cotter pin in the lower ball joint, if the hole does not line up continue to tighten the ball joint nut until the hole lines up (do NOT loosen the ball joint nut to line up the holes).

FIGURE 294

FIGURE 295

2. Attach the upper control arm to the steering knuckle temporarily using the OE upper ball joint nut. Snug up the upper ball joint nut at this time.

FIGURE 296

3. Using the screw jack, set the height from the strut mount face on strut tower to the center of the coil-over mount hole on the lower control arm to approximately 24 inches.

FIGURE 297

FIGURE 298

4. Torque the upper control arm frame mount bushing hardware to 126 ft-lbs.
5. Remove the OE upper ball joint nut and dislodge the steering knuckle from the upper control arm. Discard the OE upper ball joint nut.

FRONT COIL-OVER INSTALLATION

1. Droop out the front suspension such that the CV shaft does not pull out and the front coil-overs can be installed.
2. Install the front coil-over to the frame mount using the provided hardware. Ensure that the reservoir hoses run towards the front of the vehicle. Torque the front coil-over to frame mount hardware to 37ft-lbs.

   Note: The strut tower brace holes should line up with the OE strut mount holes. If they do not, the strut tower brace holes may need to be die grind out to install the front coil-over frame mount.

3. Attach the front coil-overs to the lower control arm using the provided 3/4" flange head bolt and flange nut in Bolt Pack 381. Torque the lower control arm to coil-over hardware to 320 ft-lbs.

4. Reattach the upper ball joint to the steering knuckle using the original provided nut with the upper ball joint. Torque the upper ball joint nut on the first pass to 26 ft-lbs and a final pass of 85-95 degrees. Grease the upper ball joint at this time using 2 pumps of grease.

FIGURE 299

5. Install the upper control arm ball joint cap to the upper control arm. Using a small amount of grease, lubricate the O-ring on the cap and a rubber mallet to tap the cap onto the upper control arm.

FIGURE 300

6. Position reservoir bracket as shown in the below illustration.
7. Insert (2) 4" socket head cap screws as shown in the figure below.

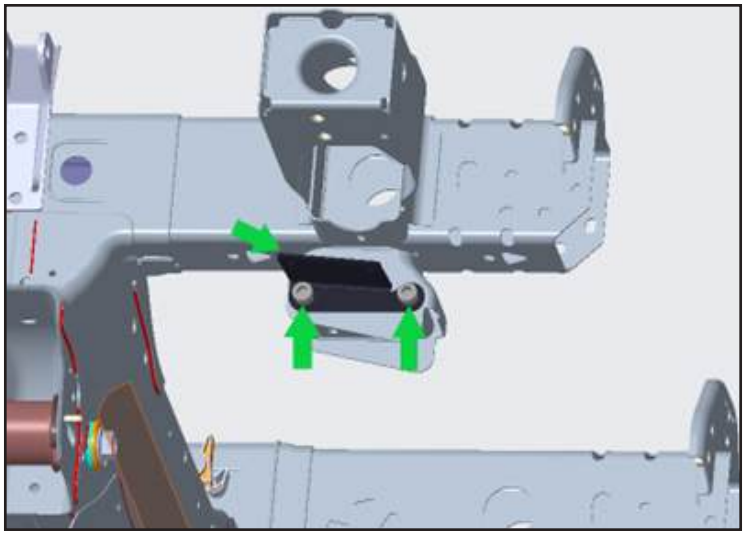


FIGURE 301

8. Place washers and nylock nuts as shown in the figure below. Torque to 30 ft-lbs.

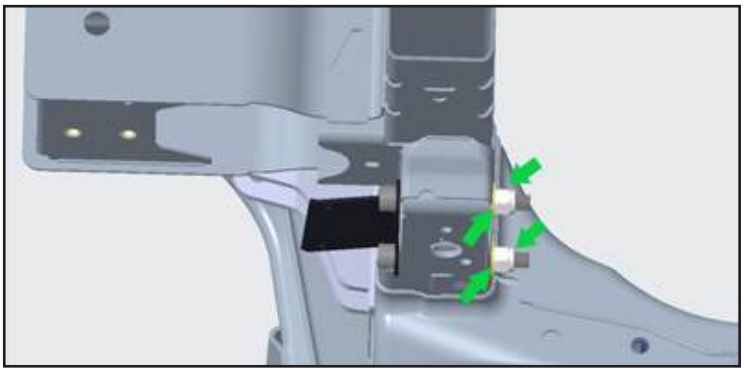


FIGURE 302

9. Swing the finned reservoir up to the bracket and engage the dovetail retention like shown below.

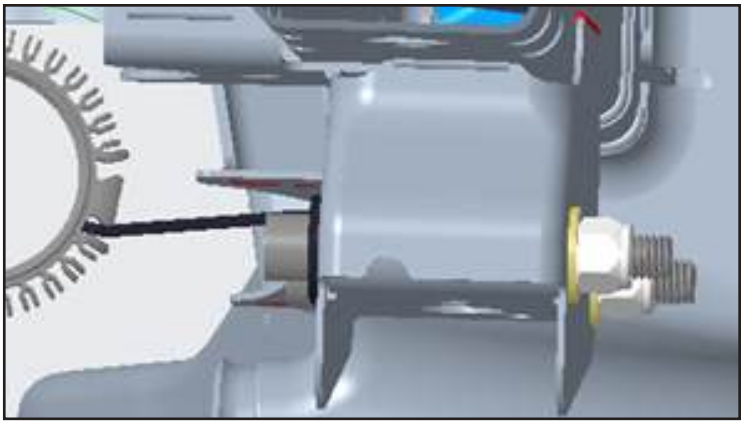


FIGURE 303

10. Reservoir should be very close to the frame as shown in the below illustration. Using a sharp paint pen and a 3/8" spacer trace a line concentric to the finned reservoir as shown in the below illustration.
11. Remove the temporarily placed reservoir.
12. Remove the frame material as indicated by the traced line. This material removal should only be needed on the wheel side of the frame section. Re-coat the raw steel with the product determined by your manufacturing group.

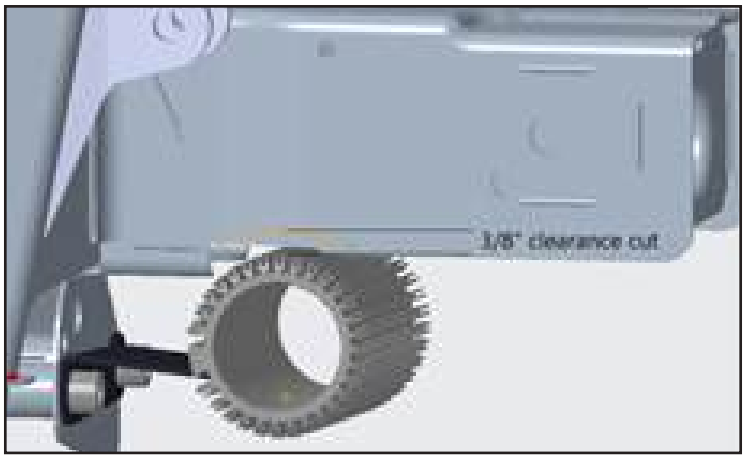


FIGURE 304

13. Swing the finned reservoir back to the bracket and engage with the bracket dovetail feature.
14. Slide in the (2) clamp nuts as shown the below picture.

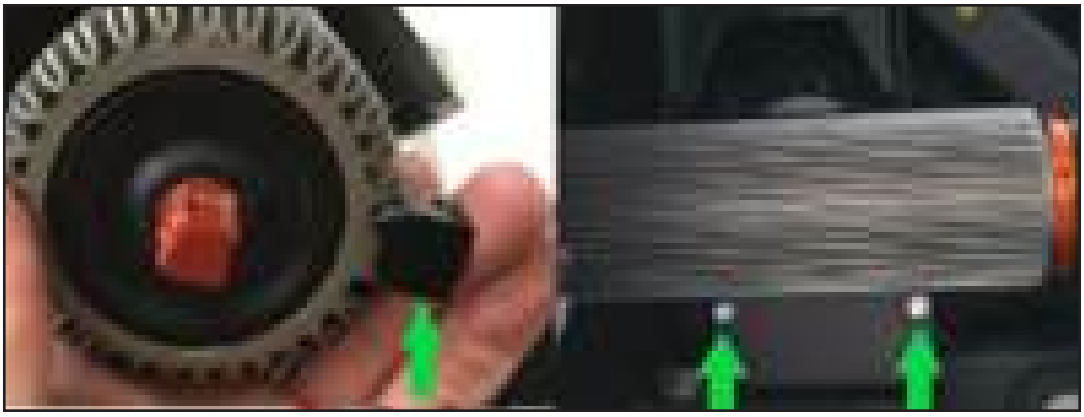


FIGURE 305

15. Align the clamp nuts with the screw holes in the bracket.
16. Apply thread-locker to the supplied 1/4" screw threads and install them into the clamp nuts through the bracket holes. Snug up the hardware at this time.
17. Slide the finned reservoir body forward to the point where the hoses are in tension and there is at least ~1/4" clearance between the reservoir and front bumper. Torque the 1/4" screws to 76 inch-lbs.

FRONT SUSPENSION INSTALLATION - CONTINUED

1. Install the front bump stop between the frame mount and the slapper link on the lower control arm. Use the provided 1/2" flange head bolts and flange nuts in Bolt Pack BP1047.

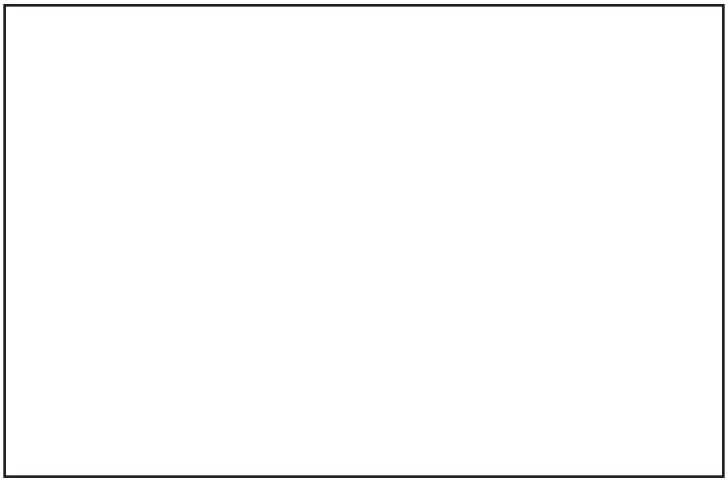


FIGURE 306

2. Reinstall the front sway bar using thread locker and the OE hardware based on proper orientation marked earlier. Torque the OE sway bar mount hardware to 37 ft-lbs.
3. Install the sway bar lateral locks to the inside of the sway bar on the passenger and driver side. Apply thread locker and torque this hardware to 25 inch-lbs.

FIGURE 307

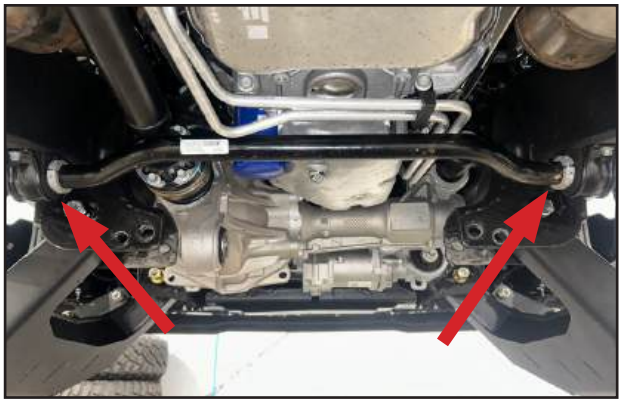


FIGURE 308

4. Attach the new sway bar links to the sway bar and the lower control arm. Tighten the sway bar link hardware to the sway bar and lower control arm to 74 ft-lbs. Grease the sway bar links at this time, using 2 pumps per each link.

FIGURE 309

FIGURE 310

5. Attach the outer tie rod joint to the steering knuckle. Torque with a first pass to 26 ft-lbs and a final pass of 85-100 degrees.

FIGURE 311

FIGURE 312

6. Attach the OE ABS line brackets to the new steering knuckle using the OE hardware with thread locker. Torque to 80 inch-lbs.

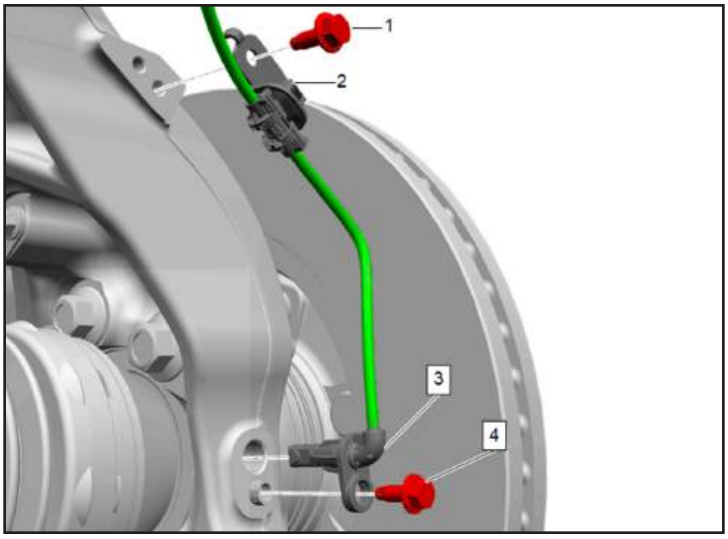


FIGURE 313

7. Attach the provided brake line bracket to the new steering knuckle with the OE hardware with thread locker. Torque to 80 inch-lbs.

FIGURE 314

8. Attach the brake line to the new brake line bracket using the provided wire clamp and 1/4" x 3/4" flange head bolt and flange nut in Bolt Pack 381.
9. Attach the same ABS mount bracket on the back side of the front upper control arm using the provided #10 x 3/8" button heads screws in Bolt Pack BP1046. Torque the #10 hardware to 30 inch-lbs.

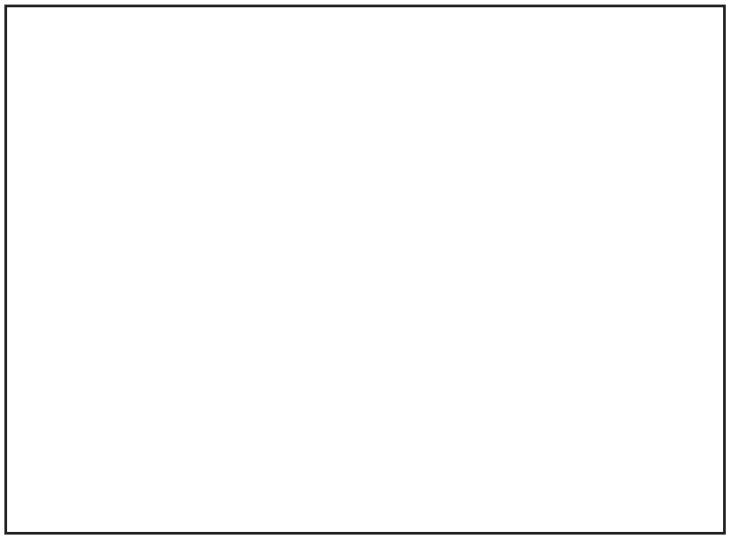


FIGURE 315

10. Using the wire clamps and #10 x 5/8" flange head hex bolt in BP1046 attach the brake sensor and ABS wire on the driver side to the attached brake line bracket on the upper control arm from the previous step. On the passenger side only the ABS wire will be attached to the upper control arm. Torque the #10 hardware to 26 inch-lbs.

FINAL INSTALLATION

1. Reinstall wheels and tires onto the vehicle.
2. Torque lug nuts to OE specifications.

3. Lower vehicle to the ground.
4. Reinstall battery cables to vehicle terminals.
5. Adjust tie rods to closely set toe. Vehicle will require a full alignment, but setting the toe close to zero will allow it to be driven to alignment.
6. Roll vehicle forward and rearward to settle the suspension.
7. Torque the 18mm rear trailing arm frame and axle mount hardware to 270 ft-lbs.
8. Torque the 14mm rear upper control arm frame and axle mount hardware to 126 ft-lbs.
9. Torque the 18 mm front lower control arm cam nut with a first pass of 133 ft-lbs and a final pass of 90-105 degrees.

ALIGNMENT AND CAM LOCK OUT INSTALLATION

1. Use standard alignment procedure to align the vehicle using the cams on the lower control arm to adjust the lower control arm position for camber and caster. Be sure to use the bolt head side to adjust the cam. Tighten the cam hardware ONLY FROM THE NUT SIDE holding the bolt head from moving. The vehicle should be aligned to OE specifications. Tighten the cam hardware with a first pass of 133 ft-lbs and a final pass of 90-105 degrees.

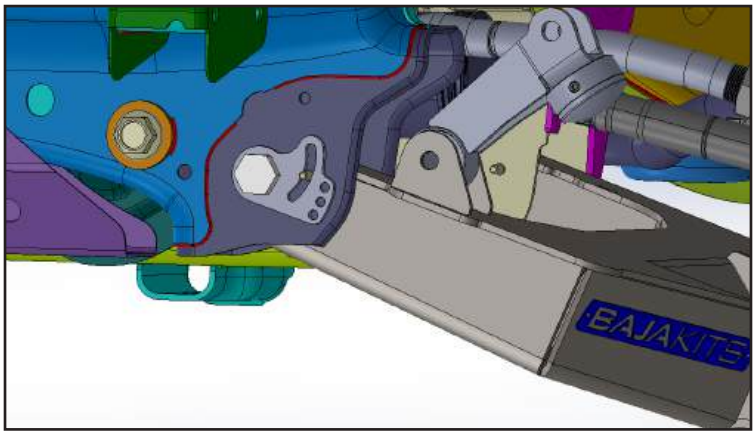


FIGURE 316

2. Use the tie rod adjuster sleeve and loosen each jam nut. Spin the center adjuster to lengthen or shorten the tie rod for toe adjustment. After setting the toe, tighten each jam nut against the center adjuster to 250 ft-lbs. The vehicle should be aligned to OE specifications.

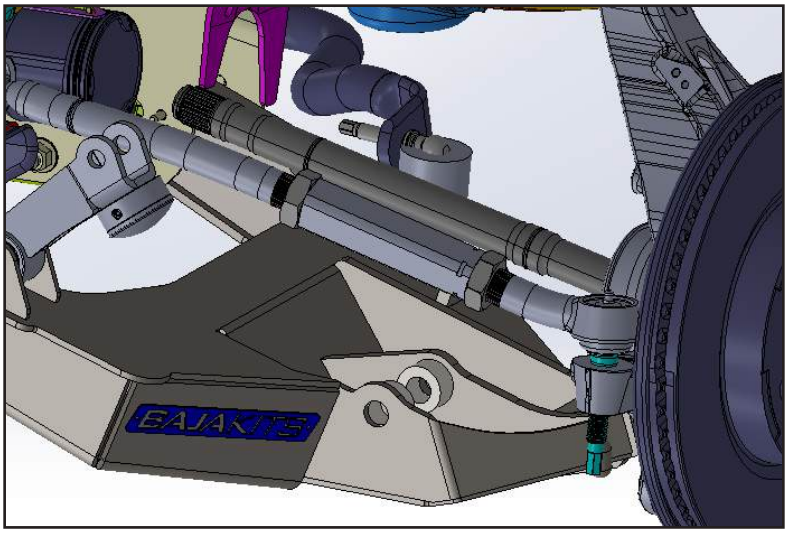


FIGURE 317

3. In the next steps holes will be drilled in the frame for the cam "lock out". These holes will be used for a bolt through the cam "lock out" and into the frame to prevent the alignment from slipping during extreme use. It is recommended to make sure the alignment is good by driving the vehicle at this time before drilling these holes.
4. After the vehicle is aligned, drill a 1/4" hole at the lowest hole position on the alignment cam on the "front face" of the vehicle. Be careful to not contact the lower control arm when drilling the hole.

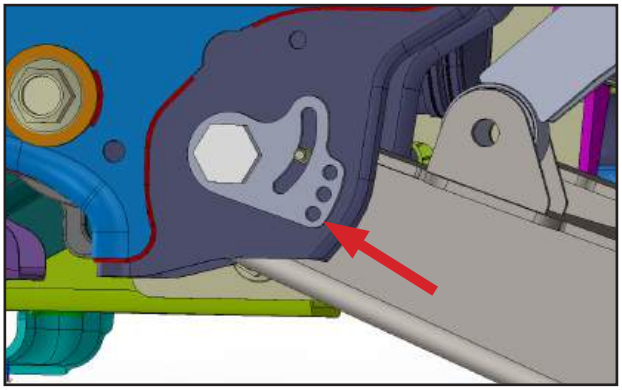


FIGURE 318

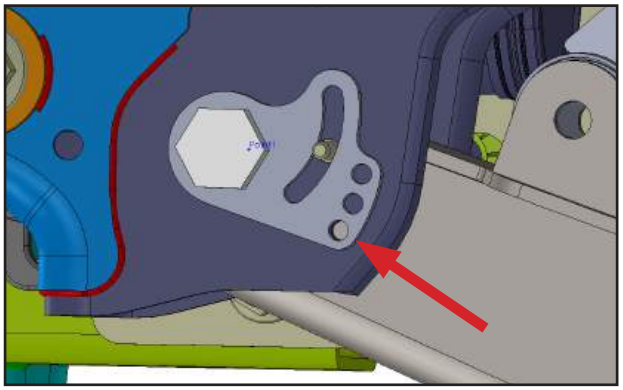


FIGURE 319

5. Drill both "rear faces" for the cams on the vehicle as well. Note that the sway bar may need to be removed on the rear cam for clearance to drill the holes.

FIGURE 320

FIGURE 321

6. Install a 1/4" x 5/8" Torx screw from Bolt Pack 381 into the hole drilled in the previous step. Run the bolt from the outside in, attaching on the inside using the provided 1/4" center lock nut in Bolt Pack 381. Tighten to 37in-lbs. The other 2 holes in the cam plate can be used if the alignment is adjusted in the future and new holes need to be drilled.

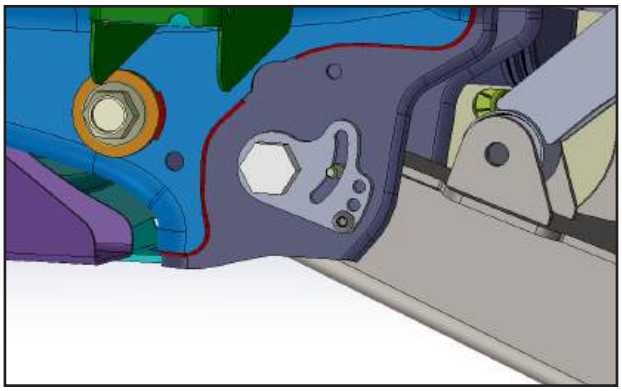


FIGURE 322

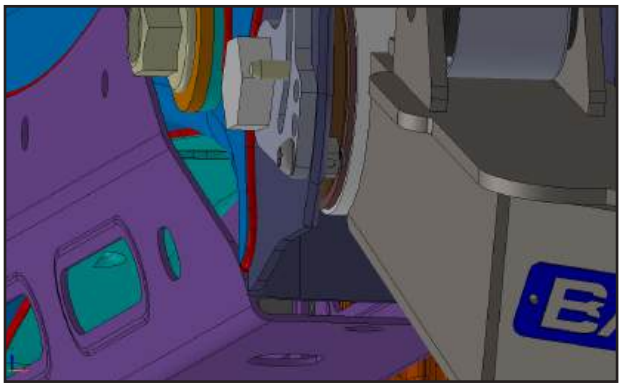
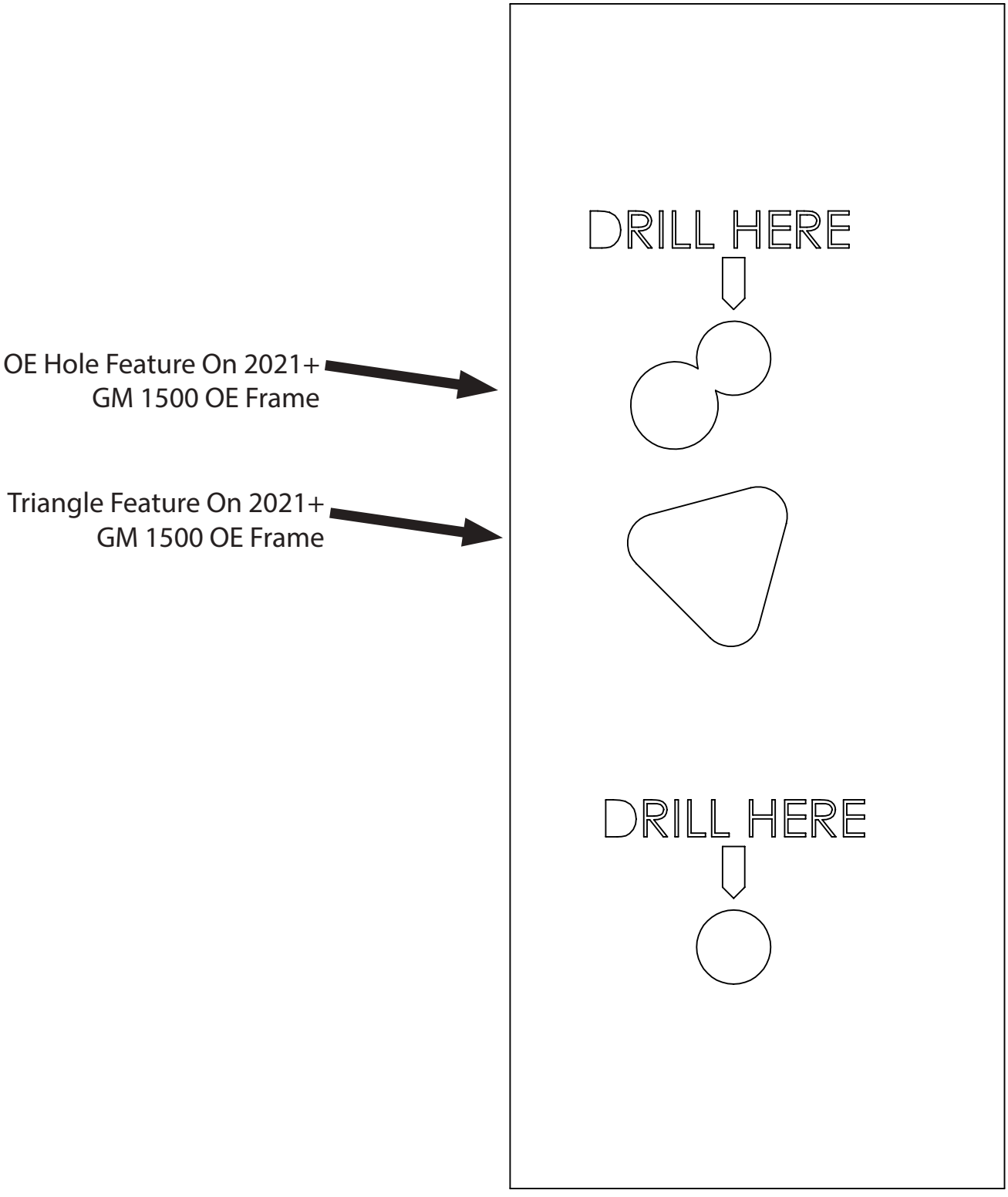


FIGURE 323

7. Repeat this procedure for all the outer cam holes that were drilled in the previous step. Additional hardware is provided for future use if the cams need to be adjusted.


DRILL HERE
OE Hole Feature On 2021+
GM 1500 OE Frame
Triangle Feature On 2021+
GM 1500 OE Frame
DRILL HERE

BJK1144001 Box Kit Components		
Part #	Quantity	Description
B1590	1	Bag Kit - Front Components
381	1	Bolt Pack - Front Components
BP1047	1	Bolt Pack - Bump Stop
342702	2	Thread Locker
05263	8	2019+ GM 1500 Cam Lock Washers
05316	1	2019+ GM 1500 Driver Side Brake Line Bracket
05317	1	2019+ GM 1500 Passenger Side Brake Line Bracket
DLL133	1	Sway Bar Clamp - 33mm
03623	4	2019+ GM 1500 Cam Bolt
099000	4	Cable Tie - Standard
15700143	4	Cable Tie - Oval Fir Tree
099002	4	Cable Tie - Fir Tree
B1625	1	Bag Kit - Stabilizer Mounting
BP1072	1	Bolt Pack- Stabilizer Mount
05563	1	2019+ GM 1500 LT Steering Rack Bracket Nut Plate
05565	1	2019+ GM 1500 LT Steering Link Attachment Clamp Bracket
A429	2	Bump Stop Link Assembly
K750146	2	Sway Bar Link
05265	1	2019+ GM 1500 Front Bump Stop Frame Mounts - Driver
05266	1	2019+ GM 1500 Front Bump Stop Frame Mounts - Passenger
05267	2	2019+ GM 1500 Bump Stop Nut Tab 1
05268	1	2019+ GM 1500 Bump Stop Nut Tab 2 - Driver
05269	1	2019+ GM 1500 Bump Stop Nut Tab 2 - Passenger
401-2048	1	2019+ GM 1500 Tie Rod End Assembly - Driver
401-2050	1	2019+ GM 1500 Tie Rod End Assembly - Passenger
05562	1	2019+ GM 1500 Steering Rack Bracket
05564	1	2019+ GM 1500 Steering Link Attachment